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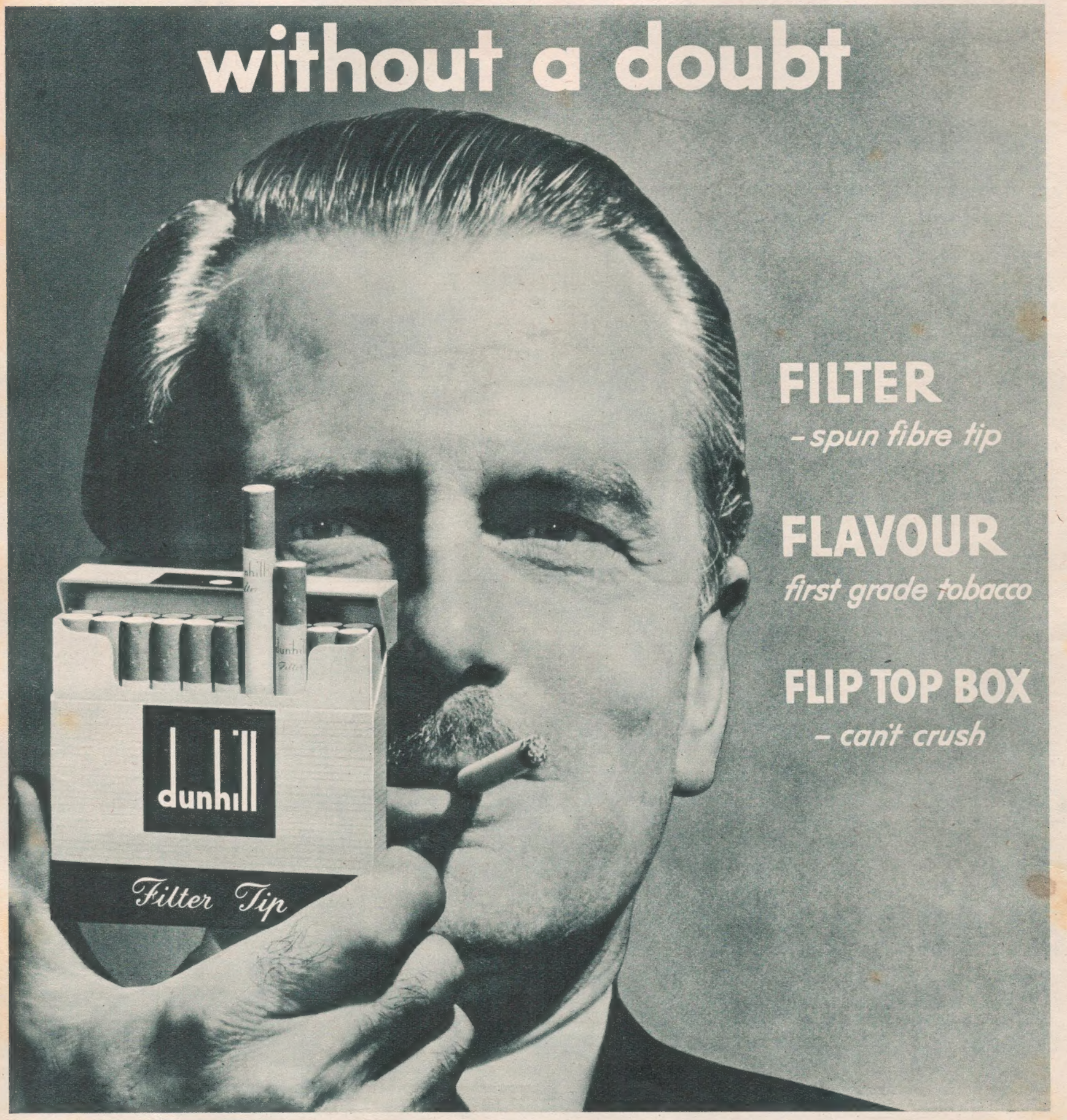

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189 HIGH HOLBORN LONDON W.C.1

TEMPLE BAR 2468 NOVEMBER 17, 1956 VOLUME 100 NUMBER 2629

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MARVELS OF THE MODERN WORLD 29-36

REPORT FROM THE EDITOR

David Dodge has twice found success on the sunny Riviera

THE Riviera seems to suit David Dodge. The first time he went there, he was inspired to write *To Catch A Thief*, a best-selling novel that became an equally successful Hitchcock film. A few years later he returned to Monte Carlo, and *Angel's Ransom*, which begins on page 13, is the result. His good fortune in the land of casinos proved catching. For it was while Grace Kelly was making the film of his earlier book in the south of France that she met, for the first time, Prince Rainier of Monaco.

As a young man in San Francisco, Dodge yearned to see the world, but his job as a chartered accountant kept him desk-bound. He began to write, and called his first novel *Death And Taxes*; but it took three years of war service in the United States Navy (he became a lieutenant-commander) to persuade him that desks and tax reports held no more attractions.

When peace came, Dodge made his bold decision. "I had always been curious about the other side of the hill, and liked writing about places I've seen," he says. So he stowed his wife Elva and their five-year-old daughter Kendal into a car and set off for Guatemala. The travel book that resulted, *How Green Was My Father*, proved such a success that his future was decided for him.

It proved to be the first of many travel books, the latest of which recounts the family's journey from Peru, down the Amazon and across the Atlantic to Monte Carlo.

As the brightest star of "Animal, Vegetable, Mineral?" Sir Mortimer Wheeler is known to millions of TV viewers, and has helped to bring science and knowledge into the accepted embrace of home life. He has shown that learning is vital and living, not something kept locked in dusty bookcases.

His creed can be summed up in his own words: "It is the duty of all scientists to put over to the general public what we are doing. Is not the alternative to mass destruction, mass instruction?" For the second year, he introduces JOHN BULL's supplements on modern knowledge.

Robert Eric Mortimer Wheeler—known as "Rikki" to his friends and "Sir Morty" to his charwoman—has searched for knowledge all his life. Born in Edinburgh in 1890, he was educated at Bradford Grammar School and London University. Since then his archaeological "digs" have uncovered many chapters of ancient history in Britain and India. At present he is secretary of the British Academy. His new popularity has brought him new problems. Recently he was asked to be a judge at a bathing beauty contest. He refused. "I would probably have wanted to give a prize to every one of the little dears," he says.

THERE they go, bright and cheerful, on their way to school. As she waves them good-bye, Mother is happy in the knowledge that she has given them the best possible start to the day—a good breakfast with a really nourishing hot drink.

Food authorities say that the first meal of the day is so important for children that they should have a quarter to a third of their daily food requirements at that time. It is important, too, that this meal should include the *right* hot drink. That is why 'Ovaltine' appears regularly on the breakfast table in so many homes.

'Ovaltine' is made from Nature's best foods, fortified with extra vitamins. It helps to provide the nourishment children need for satisfactory development and to keep them alert and energetic at work and play.

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P58

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Free Speech

- **The future is in their own hands**
- **Weather puts a strain on health**
- **Can our roads take faster cars?**

AFTER years of toil, sacrifice and saving, my husband and I have at last been able to buy twenty-six acres of land—twelve acres of good, ploughed land and the remainder woodland.

Having reared a family of five children we are starting with the minimum of capital. From the woodland, my husband and friends have cleared and cut out a site for a caravan, allowing space for piggeries, poultry and a good-sized kitchen garden. We intend gradually to clear the copse and reclaim it—several years' work, we know, but in the meantime we shall till the field.

Looking to the future, I see a neat bungalow, built by our own hands, a typical country flower garden of sweet-smelling pinks, roses, flax, honeysuckle and many other flowers; fruitful orchards and all the simple things you need for comfort.

When we have done all this—and we think it is possible—then we shall have achieved our life's ambition.—MRS. R. COLGRAVE, Blackdown Cross, Crediton, Devon.

Double Fees

When I applied for a mortgage for house purchase, the building society charged me £4 for valuation fees. The society's literature said that no access to the valuer's report would be allowed; neither would the valuation figure for the premises be quoted.

Apparently, when such information is required, the mortgagor has to arrange it privately, thus paying two sets of valuer's fees. — J. F. D., Preston, Lancashire.

"Valuer's or surveyor's fees are sought in order to prevent frivolous applications from people who merely want to know the value of their houses," says the Building Societies' Association. "The report, which is considered confidential by the society, is quite different from the detailed survey which a property owner would require."

Ill Winds

Whether or not sunspots send out radiations that can unsettle the brain ("Can We Count On Four Fine Summers?" JOHN BULL, October 27), I was told while on holiday in the Tyrol that the dry "föhn" wind that blows up the Alpine valleys definitely causes mental disturbances.

At Innsbruck, when this wind blows, council meetings have been postponed to avoid displays of bad temper, and a lower standard is anticipated from school examinations. —M. HART, London, S.W.17.

"Bad weather, with its heat, humidity and general discomfort, always enhances stress and strain," says a doctor. "The föhn wind is one example; others are the khamseen in North Africa and the mistral in Southern France. Where there is considerable physical strain due to the weather, even the slightest mental effort or frustration may release an outburst of bad temper."

Penalty Kick

Some years ago I was kicked on the knee and was forced to give up playing football. Since then the injury has healed and the pain disappeared. Several times I have thought how pleasant it would be to be back once more with all my old friends in the first XI. But the strange thing is that every time this happens and I decide to visit the doctor for a clean bill of health, the pain makes itself violently felt. As a result I have to keep delaying my return indefinitely. —R. W., Pinner, Middlesex.

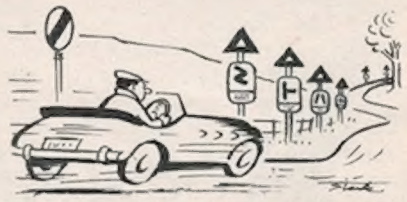
"The conflict, which may be conscious or subconscious, between what you feel and what you really want, can have a surprising effect upon knees or, indeed, any other part of the body," says a doctor. "Everybody knows how toothache disappears the moment one enters the dentist's waiting-room. That is the same kind of reaction, known to doctors as psychosomatic — where both mental and bodily faculties are involved."

Faster, Faster

Week after week one authority or another issues an urgent appeal to keep death off the roads, and much human effort and money are spent on road safety campaigns, road widening schemes and traffic control.

At the Motor Show the keynote was cars with more and more speed—on roads which have proved over many years to be so lamentably inadequate.

The assumption must be that as a result accident figures will be correspondingly increased. Are we really



to believe, then, that the authorities are sincerely concerned about road safety when they shut their eyes to one of the main causes of accidents —the unrestricted manufacture of cars capable of these frightening speeds?—JOHN HAWARD, Lolworth, Cambridge.

Ladder Mystery

The superstition of avoiding walking under a ladder ("Free Speech," October 20) originated in Christianity. The symbolism here, as in so many similar small ceremonies, is the triangle, which represents the Holy Trinity; and to walk round the ladder is a sign of obeisance to the Trinity.

Similarly, to "touch wood" is a form of respect to the Cross.—JOHN DERRICKE, The Pryors, London, N.W.3.

Someone's Wrong

The man who, on retiring, gave his money to his sons so that they wouldn't "wish him out of the way for his brass" ("Free Speech," October 20) made a grave mistake. That kind of son doesn't deserve a penny, and he would have been wiser to give his money to a deserving charity. But if the father's action was motivated only by his imagination, then he has cruelly misunderstood his sons, who would do well to hand the money back. — MRS. F. SIMES, West Dulwich, London, S.E.21.

Blank Year

For a novel form of twenty-first birthday present for a friend I began collecting twenty-one shilling pieces, to represent each year from 1936 to

CONTINUED ON PAGE 6

Chief Freckle Face the mighty hunter

THIS MORNING FRECKLEFACE IS GOING TO SHOOT A BEAR. IT'S SO BIG AND FIERCE THAT HE MUST TAKE IT BY SURPRISE IF HE IS TO HAVE SIRLOIN OF BEAR WITH HIS CHEESE FOR LUNCH. WHETHER YOU CALL IT SIRLOIN OF BEAR OR SIMPLY HOVIS, THIS BREAD MAKES GRAND EATING WITH FRESH BUTTER AND CHEESE.

"Mind that meteor" warns the Red Martian

TRAVELLING AS FAST AS LIGHT THE FRECKLED INVADER HEADS TOWARDS THE EARTH. THREE TIMES HE HAS SAVED HIS SPACE-SHIP FROM DISASTER AND NOW IT'S TIME FOR REFUELLING. LET'S HOPE THE BOY FROM OUTER SPACE GETS HOVIS FOR HIS INNER MAN.

Its the Cup Final-they're playing extra time

IT'S BEEN A DING-DONG BATTLE WITH GOALS GALORE FROM FRECKLEFACE AND HIS FRIENDLY ENEMY FROM NEXT DOOR. NOW FOR THE DECIDING GOAL AND THE PRESENTATION OF THE CUP! WITH ANY LUCK THERE WILL BE COCOA IN IT AND HOVIS AND HONEY FOR HIS SUPPER.

There's lots of life in Freckleface

It's a wonderful thing for a mother to see her child growing up on the right lines, bursting with energy and imagination. For she knows it's all her own work.

So far, Freckleface has come up the sensible way, with lots of love and affection, and plenty of the good natural food he likes. Hovis and butter! Hovis and cheese! And hot buttered Hovis for tea as the days grow colder.

Hovis

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ILFORD FILMS FOR FACES AND PLACES ANY TIME, ANYWHERE

Free Speech

CONTINUED FROM PAGE 4

1956 inclusive. But in spite of nearly six months' collecting, and with everybody's help, I failed to obtain any for 1938 and 1952.—Mrs. F. Turnbull, West Hartlepool, Co. Durham.

"Several million shillings were minted in 1938, but none at all in 1952," says the Royal Mint. "We mint coins only when the banks need them, and in 1952 there were plenty in stock."

Easing The Strain

I had no idea that five hundred migrants left Britain every week ("New Lives Down Under," John Bull, October 20). Perhaps we are on the way to filling up empty Australia, leaving more room for ourselves on this overcrowded island. Thirty million people here would be just right. We could then become self-supporting and be able to live on home agriculture.—Miss I. L. Montgomery, Highgate, London, N.6.

Looking Deeper

How cheering it is to know that there is someone in authority who looks farther than a smiling exterior when looking for candidates for promotion ("Free Speech," October 27). Very few people share these views: it is usually the smiling "yes-men" who get promoted, but it seems to me that anyone who just agrees with others either lacks character or has no moral courage.

In a small country like ours, with so little raw material, it seems a pity that good brains are wasted because those in charge cannot see beyond an argumentative façade.—Mrs. M. Chappell, Yorks.

. . . The idea of what would result if all promotions were made from the ranks of troublemakers is appalling.

When I was a sergeant in the Royal Artillery I found that men serving under such n.c.o.s resented the fact and became dissatisfied with their leadership. I knew four n.c.o.s who were promoted under this system—and they were all later reduced to the ranks. In the army a man could not leave his job, but I am wondering how many good men B. R. W. has lost his firm by pursuing his benevolent but impractical policy.

Surely there are better qualifications for promotion than delinquency.—E. A. Read, Orchard Close, Skenfrith, Monmouthshire.

Nothing Gained

While eating mussels recently I came across a seed pearl about one-eighth of an inch in diameter. This is the biggest I have seen from a mussel

and I wondered how long it had taken to create.—F. Dean, Barnsley, Yorks.

A pearl is the result of a particle of sand or grit working into the flesh and setting up irritation. The mussel, or oyster, covers it with layers of nacre—carbonate of lime—to try to protect itself.

Pearls take years to develop, but mussel pearls lack the sheen and lustre of oyster pearls and as a result have no value.

Blind Angler's Courage

Your story of the blind man shooting duck ("Out Of The Dark," John Bull, October 20) reminded me of the time when I took a blind man fishing. He was an ex-airman and had lost his sight from a bomb flash.

Naturally, I had to guide him to the bank and net the fish that he hooked, but that was about all. He preferred to wade because the pressure of water on his waders indicated to him the direction in which to cast. I admired the way he set his own tackle up and the ease with which he cast a fly. But most of all I admired his courage. — William Donald, Cockermouth, Cumberland.

Welcome Complaints

Once I plucked up sufficient effort to complain about a badly cooked meal served to me in a restaurant. I fully expected a storm to break over my head, but instead there

were apologetic smiles and my complaint was dealt with satisfactorily. Now I do the same thing whenever I am served with unsatisfactory meals or am given dirty crockery. The person in charge has always been gratified that he has been made aware of the circumstances.—W. Taylor, Wrexham, N. Wales.

Courteous Captain

I am one of the many thousands who have travelled on Captain Pugh's boat, the Egremont ("Captain Pugh's Clockwork Fleet," John Bull, October 20). On a pleasure trip with him along the Manchester Ship Canal I saw two of his many kindly actions.

The first was when he waited at one of the locks so that he could give the pilot from a merchant ship a lift home to New Brighton. The second delighted all the boys—and many adults, too—when he allowed them to go on the bridge with him. The boys lost all thoughts of space ships and rockets while they were listening and watching, Captain Pugh.—H. Browne, Whiston, Liverpool.

Mediterranean Retreats

A woman I know, who suffers from chronic bronchitis, left her home town in smoky, industrial Lancashire to live in Gloucestershire in search of a kindlier climate.

During an attack of her old chest trouble, however, she went to her local doctor, who surprised her by advising her to return north. He said that Gloucestershire winters were much too bleak for people with bronchitis. Is there anywhere favourable to bronchial sufferers?—William H. Mellor, Oldham, Lancs.

"Certain places in North Africa and on the Egyptian coast are very suitable indeed," says a doctor. "Nowhere in Great Britain is really much good to bronchial cases. Some places are better than others, but there isn't much in it."

Sign Of The Times

Much as I enjoy readers' "Make Yourself At Home" ideas, I could not help thinking what a sad sign of the times was revealed by the suggestion that a piano stool — now unwanted as so few people make their own music—could be made into a receptacle for yet more canned entertainment: television. I wonder if we shall ever learn to amuse ourselves again, instead of constantly having to be amused.—Mrs. J. Watkinson, Crewkerne, Somerset.

Severn Washout

About thirty years ago considerable attention was given by eminent engineers to the possibility of drawing power from the tidal waters of the Severn estuary. The general

CONTINUED ON PAGE 8

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Free Speech

CONTINUED FROM PAGE 6

opinion was that the scheme was quite practicable, but it was opposed by certain vested interests, particularly the South Wales coalowners. As most of these interests no longer exist, why is this scheme not being reconsidered?—E. H. PRICE, Harlech, Merioneth.

In the House of Commons last July, Mr. D. Renton, Parliamentary Secretary to the Fuel Minister, said: "The results of recent research into the Severn Barrage project are discouraging, and as far as we know no other tidal inlet in the country offers any better prospect."

Apple Of Discord

British Railways recently charged me sevenpence for one apple (which turned out to be imported and entirely tasteless) in their buffet at Euston Station. Yet in Chester the next day I was able to buy good English eating apples at a shilling a *pound* (four or five apples). There is something wrong with this sort of profit.—MRS. F. E. DALE, Castle Esplanade, Chester, Cheshire.

"We sell fruit as a catering establishment and make a profit normal to one," says British Railways. "The fruit is sold as part of a meal and service is provided in the form of tables, chairs and cutlery and other amenities. At Euston, and most other termini, there are also fruit stalls from which passengers can buy fruit by the pound if they want to."

Bus Comfort

The reason why seats on the kerb side of a bus are more popular than the others ("Free Speech," October 27) is that the camber of the road produces a slight leaning to that side, which makes the seat more comfortable.

Seats in the centre of the bus are likely to be the least bumpy, being nearest to the bus's centre of gravity. —PETER S. RHODES, Springhill Road, Bangor, Co. Down.

Wasteful Wishes

Most people over the age of thirty bemoan the passing of the years. Yet these same people wish their lives away when at work, by living only for the hands of the clock to reach the time when they can "knock off." "Another day gone," they will say joyfully—overlooking the fact that all those working days add up to the years they would like to reclaim.—JOHN BLUNDELL, Newport, Monmouthshire.

Unlucky For Some

There seems to be plenty of food for thought for psychologists in superstition ("Free Speech," October 20). Rugby League teams contain thirteen players, but the number thirteen very often wears a number fourteen jersey. Thousands of spectators see this every Saturday. I should have thought the football field a most unlikely place for such an absurd superstition.—H. ECCLES, Keighley, Yorks.

"This began to creep in before the war," says a sports expert. "Now it is almost a tradition for the thirteenth man—the loose forward—to wear number fourteen. The Australians do it, too."

Orderly Room Ordeal

When a soldier appears on a charge before his commanding officer, he has to remove his hat and belt, and is marched into the office at two or three times the normal speed, to the accompaniment of a great deal of impressive, though unnecessary, bawling by the sergeant-major. I am told this process is designed to demoralize the man charged. But in civilian life a defendant gets every assistance to present his defence. The army seems to prefer to fluster him. —C. W., Middlesbrough.

"An accused soldier removes hat and belt so there will be no temptation to throw them at his commanding officer and aggravate the charge," says the War Office. "There is no intention to fluster a man. Manoeuvring the accused, his escort and the sergeant-major into a commanding officer's office is not easy, and short steps have to be taken because there is little room."

Drab Dancers

When I was in my teens, young girls went to work dressed in working clothes. They wore good, hard-wearing dresses, sensible shoes and stout stockings. But when they went dancing they arrayed themselves in all their finery—silk dresses, silk stockings and satin shoes. They looked beautiful.

But in 1956, things have reversed. Expensive suits, fine suède shoes and nylon stockings have taken the place of working clothes. For dancing, these same ultra-smart girls wear denim jeans, heavy shoes and rough woollen sweaters.

Does this generation find its pleasure hard work? Or its work a pleasure?—L. A. J. LILLEY, London, N.1.

Back Soon

One day I wanted to buy a money order between 1 p.m. and 2 p.m. I tried a suburban post office, but it was closed for lunch, and so were five

others which I tried in the suburbs. Must all post office business in the suburbs be suspended while officials have their lunches?—A. S., Sheffield.

"Crown post offices—those staffed by civil servants—do not close for lunch," says the G.P.O. "But the closing of a sub-post office is a matter for the individual shopkeeper concerned. In London, two Crown offices—one in King Edward Street, in the City, and the other in Charing Cross Road—are open twenty-four hours a day seven days a week."

Profitable Picking

When I was a boy living in a Somersetshire village, a tradesman with a pony and trap drove around every morning to buy all the blackberries that had been picked ("Free Speech," October 20). Mothers and children made sure none rotted in the hedgerows, and earned valuable pocket money. Is there no village collector to encourage picking today? —F. VERRIER, Gladesmore Road, London, N.15.

Sympathetic Ear

I believe that deaf people, however brilliant, are precluded from teaching posts in this country.

This seems a pity. In America, deaf teachers are employed with others in schools for the deaf, and are highly esteemed. Mr. J. M. Wallace, president of the Florida School for the Deaf and Blind, has said: "We feel that our deaf academic teachers are excellent. They have been able to teach deaf children whom hearing teachers found difficult to teach."—MRS. J. PRITCHARD, Denmark Road, Southport.

"It is true that deaf people, or those with any kind of disability likely to affect their teaching capacity are barred from teaching

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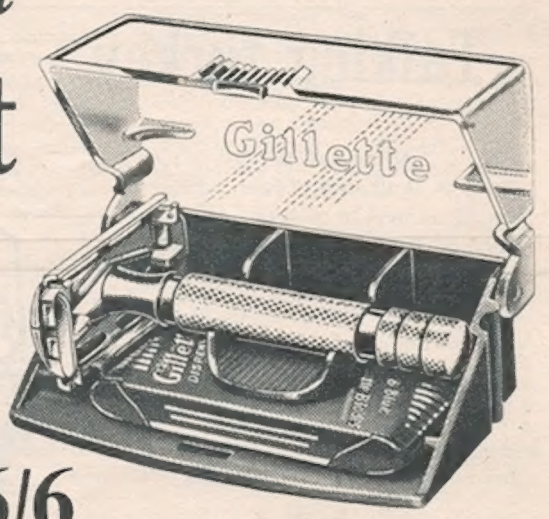
Smart girl . . .

gave him a

Gillette 'Rocket' set

Smart man!



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Free Speech

CONTINUED FROM PAGE 8

posts," says the Ministry of Education. "There are no facilities for training deaf people to become teachers of the deaf. To provide them would mean radically altering our specialized education system."

Clear Consciences

People leaving Australia to live elsewhere cannot obtain tickets for either air or sea passages until they present their income tax office clearance chit. This applies even to the very "small fry," like ourselves.

Yet people owing thousands of pounds are allowed to leave Britain without any difficulty at all, and no one seems to think of doing anything about it.—MRS. M. LOMAS, Stockport, Cheshire.

"People leaving Australia on temporary visits can obtain the signature of someone to act as guarantor, who would be liable for any outstanding tax due should the person decide not to return," says an Australia House official. The Inland Revenue adds: "No similar arrangements exist in this country."

Safest Place

As a naturalist, I believe that foxes would not harm hens in a quarry near the lair ("Free Speech," October 20) because the cry of the game being killed, or the discovery of the carcase if he were disturbed, would be likely to give away the position of the lair. This is the habit of many wild animals. In fact, I have heard it said that the safest place to keep hens is outside a fox's lair.—H. ALLEN, Petitor Road, Torquay.

John Bull pays one guinea for each letter published in "Free Speech," and at the usual rates for photographs. Readers with problems (other than medical) should write to the John Bull Free Advice Service, whose experts answer questions by post

Win £1,000 cash FREE for a cover title

TAKE an idea, sprinkle it with a few carefully chosen words —and there you may well have a prizewinning recipe for JOHN BULL'S cover title competition. The prize is £100 *free* for the writer of the best title this week, who stands an excellent chance of scooping the jackpot of £900 which will be awarded in addition to the writer of the best winning title in the whole series, ending on December 8.

When you have decided on a title—consisting of not more than eight words—cut out the small reproduction of the cover printed at the foot of this page, paste it on the right-hand side of a plain postcard and write your title alongside it in BLOCK CAPITAL letters. Add your name and full postal address, then post the card (2d. stamp) to JOHN BULL, No. 9 Cover, 96 Long Acre, London, W.C.2 (Comp.), to arrive not later than Monday, November 26, 1956.

The prize of £100 will be awarded for the most apt and original title received. Each reader may send one postcard only for this week's contest, and only one title may be written on each postcard. The prize will be shared in the event of a tie. The Editor's decision is final on all matters concerning the competition. Employees of the proprietors of JOHN BULL (also of associated companies) and their families are not allowed to enter.

WINNER OF COVER CONTEST NO. 4

MISS A. WARWICK of 65 Caerphilly Road, Cardiff, South Wales, has won £100 in JOHN BULL'S cover contest No. 4. Her winning title for Batchelor's painting of the church harvest festival scene is THE PICK OF THE FLOCK.

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THE COVER

WHAT now? Shall she walk straight past? Or flutter her eyelashes at the law? Well, Petts's cover policeman might take kindly to feminine guiles, and the obstructionist looks the beguiling sort. Yes, try persuasion. At least it's a less hackneyed approach than finding a mechanic who will agree to testify that her immobility was sudden, serious and mechanical. So: "I was only away a little tiny minute, officer—how cold you must be without gloves on a night like this!" Even a husband can excuse that — if it will save him a pound fine.

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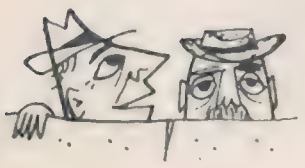
the things they say!

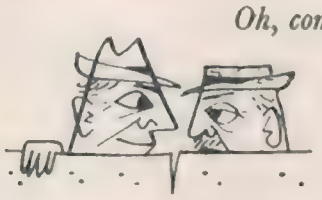


Huge place, isn't it?

Darn sight too huge, if you ask me. These new I.C.I. places cost millions and millions — and what's it all for?

Why, surely to make new chemicals for Britain's expanding industries . . . ?

Not a bit of it — profits for a few top hats in the City, that's all it's for, mark my words. It isn't right that a few men should control such wealth and power, and if I were running this country . . .



Oh, come. You talk as though I.C.I. were controlled by a few financiers answerable to no one but themselves.

Well, isn't it?

Of course not. Nor is any big public company today.

Go on! I.C.I. is run by a handful of directors, and don't you say it isn't.

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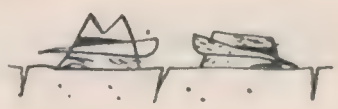
And who are they, eh?

A fair cross-section of the community — from foremen plasterers to district nurses, from shop assistants to judges. All told, no fewer than a quarter of a million people. The number is going up all the time, too, for under I.C.I.'s Profit-Sharing Scheme over 80,000 of its employees are also being given shares in the business.



Imperial Chemical Industries Limited

Beginning a great new mystery serial

Angel's Ransom

by DAVID DODGE

ILLUSTRATED BY ZELINSKI

THE girl came running out of the dark, almost on the stroke of midnight. Blake was on the Angel's foredeck when he heard the hurried, sharp rap of feminine heels on the stone steps that led from the Chemin des Pêcheurs to the landward end of the jetty where the Angel was moored.

He could not see the girl from where he stood, but from the desperate hurry of the clicking heels he guessed that she was frightened—too frightened to realize she was running towards a dead end.

The Angel was the last of the boats moored along the jetty. Beyond her was nothing, only the end of the sea wall and its slowly winking red light that marked the mouth of the port of Monaco. Blake went quickly aft, and reached the stern rail just in time to call to the girl as she ran past the end of the Angel's gangplank.

She shied at the sound of his voice, missed her footing, and said: "Oh!" startled; then, "Oh!" again, sharply, painfully, as she fell.

Blake touched the switch of the light over the gangplank, and in its bright glare he saw the girl

Blake heard the hurry of the clicking heels and the girl's cry as she fell. He found her clutching her ankle . . .

sitting, white-faced, clutching her ankle. A handbag had spilled open beside her.

"I'm sorry." She was breathless and slightly hysterical when he went to help her. "I mean, *Je vous demande pardon. Ma—ma jambe*—Oh, couldn't you please, just this once, speak English?"

"I'm British. Take it easy." Blake gathered up the contents of her handbag, and lifted her to her feet. "It's my place to apologize, for startling you. Can you walk?"

"I—I don't know. If I could sit down for a few minutes——" She broke off to look uneasily over her shoulder, balancing precariously on one foot.

There was nothing to be seen but the jetty lights and the shadows they failed to dispel; no sound but a thin thread of music coming from the casino on the bluff across the harbour, the wash of waves between the jetty and the small fleet of quiet boats tied up in its shelter. The jetty and the landward quay from which it sprang were deserted. Whatever the girl fled from, it did not seem to be an imminent menace.

But Blake could not leave her standing there, helpless. He said: "Excuse me," and picked her up without further formality.

She was light in his arms, passive, but he was acutely aware of her femininity. He had not held a woman in that way for years. After carrying her up the gangplank, he eased her into one of the canvas chairs on the afterdeck, then turned on another light. Blake saw then that she was slim and dark-haired, young and pretty in a fresh, undramatic way, and rather more fair-skinned than most girls who passed the summer months on the Mediterranean coast.

She had still not wholly recovered her breath. He said: "Take off your shoe and stocking while I hunt up a bandage." He added, refusing to listen to her protests that she did not want to trouble him further. "If you sprained it, it should be bound up before it begins to swell. What were you running from?"

"A man."

"What did he do?"

"Nothing really." She flushed at his look. "I know it sounds silly, but he kept following me, and no one else was in sight. When we came to the steps and I saw the lights, I came down here to get away from him. But he followed me and I got scared and ran. That's all, until you spoke to me and I fell."

THE Angel mounted a searchlight aft. Blake pushed the switch and swung the bright lance of light to sweep the steps down which the girl had run. He had heard no sound of pursuing feet behind the tap of her running heels, and he was as unprepared for it as the other man when the searchlight's powerful beam silhouetted a figure at the top of the steps. The man was visible for only an instant, small and scuttling, before he vanished.

The girl said shakily: "I wish you hadn't done that. I'd rather not have seen him quite so clearly. I have to go back that way."

"I'll go with you when you're ready to leave," Blake promised. "There's nothing to worry about."

He bound her ankle with a bandage of gauze. She winced when he pulled the first turn tight. He was laying a second turn over the first when she said abruptly: "You work for the American millionaire, Freddy Farr, don't you?"

"Are you a detective?"

She pointed to the name of the yacht on a lifebelt. "It's been in the papers. Everybody knows about the Angel. I've seen Freddy Farr's pictures. He's fat and ugly and bald. What do you do for him?"

"I'm his skipper. Tell me if I'm hurting you."

"Would he mind that you brought me aboard his yacht?"

"He'll mind that he wasn't here. He likes pretty girls."

"I've heard that about him." She watched the gauze sheath grow on her ankle for some moments before she added: "I've heard that he gives them things; things like fur coats and diamond necklaces . . . if they're pretty enough."

Blake tucked the end of the bandage in place and straightened up. "You can put on your shoe and stocking now."

"Thank you. Am I being tactless?"

He had to smile at her directness. He said: "Let's say I'd talk with more freedom about some other subject than the personal habits of the man who pays my salary.

"My name is Jim Blake. What are you doing wandering around the waterfront of Monaco at midnight?"

SHE was as direct and unembarrassed in answering questions as in asking them. Her name, she said, was Marian Ellis. She had come down from Paris on holiday a week earlier, and she was staying at a *pension* in Monaco-Ville. She earned her own living, as a dancer.

"I used to be in the chorus—in London shows," she said. "Then I decided to see France before I got too old. I had a chorus job in Paris for some time—quite a respectable engagement. When that ended I got another. That one turned out to be, well, pretty foul. So I got out of Paris and came down here to try my luck."

"There can't be very many opportunities for a dancer in Monaco."

"There aren't. I found that out after I got here." She sighed. "It's no place for a working girl, but it's so beautiful." She hesitated. "And in a way I suppose I'm here because I'm always looking for adventure."

"Is that why you go wandering by yourself in dark streets at midnight?"

She nodded unhappily. "And then when something *does* happen to me, I get scared and run. Isn't it maddening?"

Blake said: "You were wise to run, in the circumstances. You'd be even wiser not to go about alone in the middle of the night. Things like this wouldn't happen to you."

"But I *want* things to happen to me." She stretched both hands in an odd, yearning gesture towards the lights of the little port. "That's why I'm here."

"Freddy is going to be even more sorry he missed you. He's been chasing those same will-o'-the-wisps all his life."

The reintroduction of Freddy's name into the conversation changed her mood, sharply and immediately. Without being aware of why it had happened, Blake was conscious of the change. She said nothing more for several moments, and he saw that she was about to leave. He went to help her out of the deck chair when she made the first move to get to her feet.

"I'd better go now," she said formally. "I don't want to get into trouble if your employer comes back and finds me here."

Half irritated, half amused, he said: "You needn't worry. He can't sack me. We're sailing in the morning, and he won't show up until it's too late to find another captain. Besides, even if he did find you here, he's not an ogre. You might even like him. There are a lot of people who do."

"Do you?"

The blunt question invited a blunt reply that Blake did not want to give. He said: "Wait here while I get a torch," and left her trying her weight on the bandaged ankle.

She moved quickly and without a limp as soon as he had left the deck. Taking a few essentials from her handbag and slipping them into her pocket, she dropped the bag in the shadow behind the chair where she had been sitting.

Blake returned with the torch to find the girl waiting, at the head of the gangplank. He was too preoccupied with helping her down to the jetty to notice that she had left the yacht without the handbag he had carried aboard for her.

She was quite certain she could walk to her *pension* with his help, and Blake, who had never explored the seaward cliffs of Monaco-Ville, did not think to question her judgment until they had climbed the steps from the jetty and followed the winding Chemin des Pêcheurs along its rocky ledge for a good five hundred yards to its dead end above the sea. There, steeper and considerably more difficult steps led up the cliffside through the dark gardens of the Musée Oceanographique to the avenue at the top of the bluff.

It was a stiff test for an injured ankle, even with the torch to show the way and his supporting arm to take some of the weight. As they climbed, he said: "How in the world did you find this way to come, and why did you try it

"The amount," Herriot said smoothly, "will be one hundred thousand dollars." Freddy Farr looked up at him thoughtfully . . .

in the dark? You could have broken a leg."

"I wanted to see where the steps led. They looked challenging."

"Do you always accept challenges?"

"Certainly! Always! Don't you?"

"Never. I'm the man who will live to run another day."

"Where are you running tomorrow? When you sail, I mean."

"I can't tell you."

She kept her hand on his arm, but he felt her withdrawal. It was strange, he thought, how aware of her he was.

He said: "I don't mean I won't. I can't. I don't know. Freddy hasn't given me a destination—only sailing orders."

"And when a man with six million dollars gives you sailing orders, you sail whether you know where you're going or not, naturally."

Blake grinned. He said: "I have a feeling that you dislike Freddy Farr because he has too much money. You say you've read about the Angel in the newspapers. You must know that a Belgian baroness has claimed he gave the yacht to her, and is suing to get it away from him. She's trying to attach it through the Monaco courts; he's taking it out of her reach before she can do it. It's as simple as that."

"You're loyal to your boss, of course."

"Shouldn't I be?"

"What about the Belgian woman? Hasn't she any rights?" She went on, with a surprising flash of temper: "Men always band together against the avaricious female, don't they?"

"I'm not banding together with Freddy. I work for him."

"I hope he pays you well."

They did not talk again until they came at last up out of the cliffside garden to the brightly lighted avenue in front of the Musée. There had been no sign of her molester along the way, and an *agent de police* strolled along not far ahead of them.

The girl took her hand from Blake's arm. "I can go on from here by myself," she said coolly. "My *pension* isn't far. Thank you very much for all you've done, and I'm sorry I've been such a bother."

"It was no bother. You broke the monotony of a dull anchor watch. Let me take you the rest of the way."

"Thank you, I'd rather not trouble you any more. Good night. . . ."

Even then he would still have made a further effort, but he had a feeling that she deliberately chose to make the parting a chilly one. He smiled his regret that it was so, said good night, and left her. . . .

"Very amusing," the man said, sneering. He

Continued on page 55

UP IN THE WORLD (2)

I save my career with a song

by NORMAN WISDOM

My act was a flop. I made no more impact than a backstage mouse. Then I had a plan that sent the manager into a panic

UNDER the blazing sun of an Indian summer, the provost sergeant pointed to a chalked-out square of baked earth in the camp compound at Lucknow and instructed me to dig a hole. He was a massive character with the bearing of a Grenadier, and I was upset to see that he appeared to get so much pleasure out of supervising my disciplinary punishment.

Even in that moment, though, I had no grouse about the army; except for this "jankers" session, everything had gone pretty well since I had walked out of an apprentice draughtsman's job in desperation and rejoined the army only eight months after my mother had bought me out for £35.

I had been posted to the 8th Hussars at Aldershot and thence to India. By my reckoning it was one hundred per cent better than the empty, pointless life I had led in civvy street.

Now I had friends and regular meals, and all the sport I wanted, especially soccer and boxing, and I was being paid to see the world and learn music. I was enjoying life, I felt magnificently fit, and I had an appetite that belied my small stature.

It was my stomach that had led me into this imposition in the camp compound. The night before, as one of the boy trumpeters, I was down to sound the officers' mess call. Half an hour before this was due I reckoned that I had just enough time for a plate of egg and chips in the canteen.

As things turned out, another few seconds would have sufficed. But when I arrived on the square my mouth was still stuffed with the last forkful of food, and I could no more blow my trumpet than rise to the rank of general.

I forget exactly how the charge was worded, but it sounded pretty criminal as I stood bare-headed before the commanding officer. He awarded me fourteen days "jankers."

Now the provost sergeant was putting his interpretation on this sentence. I was still under the slightly lunatic impression that if one did a good job in such circumstances, the rest of the punishment would ease. As I pushed the spade against the ground, and watched the provost sergeant's big boots disappearing, I resolved to make this into the hole of all time.

I dug furiously. No council roadmen ever dug a better hole. It was six foot deep by four foot square, neat and trimmed and symmetrical. My hands bled and my arms felt loose at the shoulder sockets.

I felt quite proud when the sergeant came to inspect it. He stood there for a moment, nodding in approval and looking first into the pit and then at me. Suddenly he produced a dead mouse, threw it contemptuously into the hole and barked: "Now fill it up."

Even this loss of face couldn't turn me against the army. I had known worse moments out of uniform. I was making headway in my lessons on the theory of music, I was winning respect as a flyweight with a punch in the regimental boxing competitions, and I had taken up cross-country running.

What most intrigued me, however, was the music. For some of the camp concerts I was now allowed to join the orchestra as a violinist, and though I suspected I was merely part of the "dressing," I was still thrilled about it. There was a disappointment in store, however.

One day the band moved from Lucknow into the hill country. A trumpeter had to be left behind to sound duty calls and I was chosen. It was one of those odd-man-out situations to which I should have been accustomed, but I found it intolerable until one afternoon when I was nosing around the band's store-room I came across a xylophone. I tried my hand on it and managed to get some semblance of a tune. After that, I practised regularly, every day, and when the band got back I was proficient enough to induce the bandmaster to allow me to play it for an outdoor concert.

There was a big audience out there in the compound, even though heavy storm clouds were building up. We got into a piece called "Two Imps" and in the middle I lost a note. I tried frantically to catch up, and I was fighting a losing battle, when the clouds burst and everyone, audience and band, scurried for shelter. It was a providential let-off.

AT about this time something happened which, though I didn't realize it then, was to spark off my future career. I had become regimental flyweight champion. It was a new experience for me, to be top of the heap, and I was determined to hold on to what I'd won.

Whenever there was a chance I had a work-out in the gymnasium, and often when there was nobody to spar with I did shadow boxing.

One evening in the hut, I stripped down to

After the war Norman took his press cuttings to Collins Music Hall, and pestered the manager for a chance. He was put on in the first house on Monday (left), and forgot how to end his act

audience, [illegible] by Dick Wainwright (late of the Granada Theatres, London) also gave much pleasure.

The high-light of the evening was provided by the screamingly funny comedian, Dizzy-wizzy (Signalman N. Wisdon, R.C.S.), whose shadow-boxing with an invisible opponent and other pranks, made the company rock with laughter. A double act by Messrs. Gee and Page also produced roars of mirth. [illegible] "It's Got to End Some Day," all of which were received with great enthusiasm.

Sig Wisden, a member of the Royal Corps of Signals, had everyone in fits of laughter as soon as he appeared. His knock-about fooling was perfect, and he showed the utmost originality.

Stella, a clever young juvenile star, sang two songs and gave two dialogues, while [illegible] renderings on the violin of "Czardas," by Monti, and the popular Intermezzo from "Escape to Happiness."

The second artist, "Dizzie-Wizzie" (Signalman N. Wisdom) with his side-splitting antics, interspersed with jokes, caused roars of mirth and he finished with an expert demonstration of tap-dancing.

Among the guests at the dance were Mr. D. L. Lipson, the Borough Member, and Mrs. Lipson; and the Deputy

When Norman was invited to appear in a charity concert at the Victoria Palace, Vera Lynn and Laurel and Hardy were on the bill. Vera hoaxed Norman into switching places with her in the show—to give him a better chance of success

my shorts and began a session of hitting an imaginary opponent. I pranced about, my arms flailing pretended blows, and some of the boys, lying on their beds, encouraged me as if I was in a real fight.

To make it more realistic for them, I not only aimed punches, but also started ducking away from my non-existent opponent. They laughed. I jerked my head back, putting on an expression of bewildered shock, as if this ghost had really caught me a fourpenny one.

It was then that I noticed they were laughing uncontrollably, some of them till the tears were in their eyes.

I really milked it then. I fell down as if from a mighty swipe. I cowered and covered up. And I paid off by taking to my heels, finishing with a flying leap over a two-tier bunk and landing on the hut floor on the other side.

By this time, the lads were doubled up. I didn't know quite how I'd done it, but I liked the sensation of making people laugh. I had the feeling, for the first time in my life, of having fulfilled myself in some odd way.

After this I set out to be the camp jester—and this I became. I would fool about for their pleasure whether I was provoked into it or not.

In the canteen there were bigger audiences to win. Besides comedy I gave them tap-dancing, too. Soldiers always make a good audience; in this case the loneliness of foreign service and the strict discipline of the regular army led them to appreciate any diversion. Even now, it never occurred to me that there might be a future as a performer.

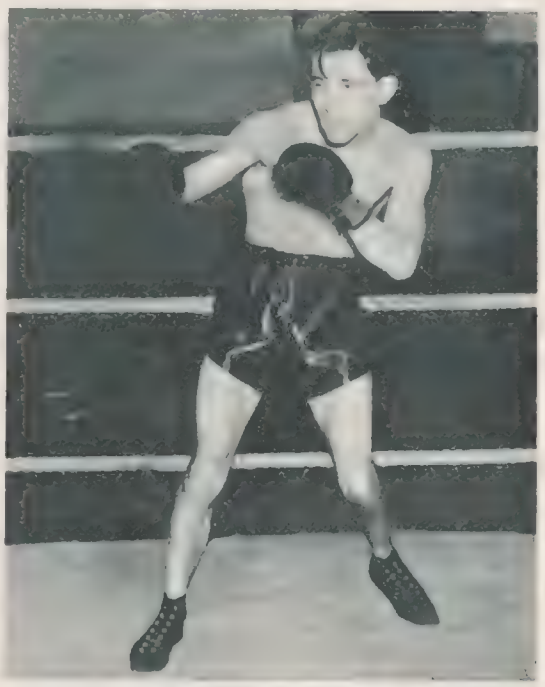
As my army engagement moved towards its end, I was still the unofficial jester, but I was more concerned about filling in some of the gaps in my education than about thinking of what I would do for a living once I left the army.

I took advantage of the classes in general education we were encouraged to attend. I had to study really hard for my third-class certificate, and presently I worked through to win a first-class certificate.

It was the spring of 1939 when I was a civilian again and I attended L.C.C. evening classes while working for a safety glass firm in which an executive was Kenneth Horne. I sat for a civil service examination and as a result got a job as a night telephonist in the G.P.O. at Willesden.

Though the routine wore me down a bit, I was steadier now than I had been at any other time and I didn't mind night work because it allowed me so much freedom during the day to explore London.

I was still a night telephonist when Neville Chamberlain announced that Britain was at war with Germany, and the day after his broadcast I was all set to join the army for the third time. I went to volunteer that Monday morning, after breakfast following my night shift, but



In the army Norman became a flyweight champion. But his shadow boxing was so humorous that he joined a concert party

the recruiting officer advised me that I was in a restricted occupation.

The newspapers were soon full of stories about the British Expeditionary Force in France, and it seemed crazy that I, a trained soldier, should be plugging holes on a switchboard. I tried to volunteer again, but there was nothing doing.

It was when the blitz started that I realized what suicide seats we night operators occupied. We were on the top floor of the exchange, with a glass roof over our heads, and the Luftwaffe in the sky directly above. It was an uncomfortable rôle, though when we put on our headphones we were too busy to worry a great deal.

WHEN I came out into London in the mornings to see the rubble and the smouldering ruins I felt that I wanted to hit back. Even old people, bombed out of their little houses, were more directly involved in the war than I was; yet I was a fully trained soldier who knew how to handle a rifle, and I was spending my working hours saying, "Number, please."

Again I tried for the army, and finally they accepted me; not for the Hussars, as I had hoped, but, because of my G.P.O. training, for the Royal Corps of Signals.

By one of those quirks of fortune, I never went overseas during the war. Presently I found myself at Cheltenham, with a place in the camp orchestra.

Often we played for dancing, and it was during one of these camp dances that an impromptu cabaret started up. We were all a little gay, and I couldn't resist the temptation. I came down from the orchestra rostrum and put on my shadow-boxing act. I heard the laughter welling up and I just went on and on. It was an impetuous gesture on my part and I never gave a thought to the fact that the camp entertainments officer was watching.

Next morning he sent for me and said how much he had enjoyed my performance. "You ought to be in the concert party," he said.

We gave camp shows and performed at the local military hospitals, and what had started as a lark as far as I was concerned now became a preoccupation. I started doing my stuff to

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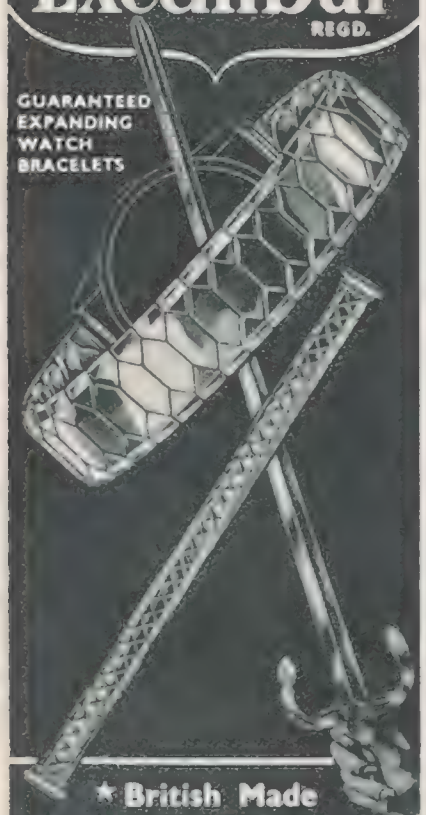

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When Norman and Freda were married he had three dates between him and unemployment. Then he started tramping round to agents

music. I made the whole thing more deliberate, too, and even wrote myself some scripts.

Much later someone in the audience who was also a club official approached me with an offer to appear at his works club. The fee was ten shillings. It was the first of several club jobs at ten shillings a time, but as time went on and I appeared to be in demand my fee went up to a guinea.

Then came the biggest show of all, a Sunday concert at Cheltenham Town Hall, for which I got my first press notice. It was in the *Gloucestershire Echo*, and I bought several copies to send to friends.

Even now I had not considered taking up entertaining as a full-time career. It was an actor in the army who first put it into my head when the European war was over and everyone was talking about demobilization. The more I thought about it the more attractive it became, and by the time I was released I had made up my mind to try.

I went to Deal to live with my mother. I made no effort to look for a job. Instead, I wrote more comedy scripts and practised my act in the front bedroom which overlooked the road. Once, when I looked out of the window, I saw two women gazing up, consternation and curiosity written all over their faces, and my mother mentioned that some of the neighbours were becoming rather concerned.

They had heard me laughing my head off, and reached various conclusions, the main two being that I was mentally disturbed and that someone was being murdered. When I went out I got some odd looks. . . .

It took a few weeks before I felt I was ready to try the theatrical agents, and I began a dreary spell of traipsing round their offices looking for an opening. Nobody was interested. I was never thrown out, but I was hardly welcomed with open arms.

So far I had been living strictly on my gratuity of more than £80. Now it was running dangerously low, so I decided to make a direct approach. I had heard that many vaudeville artists had made their first appearance at Collins Music Hall, Islington, and it was there that I went one morning.

I took my meagre press cuttings, and rehearsed on the underground train what I was going to say, but when I came face to face with the manager in his office I was tongue-tied. Speechlessly, I handed over the cuttings. He thumbed through them, plainly unimpressed, then gazed hard at me as if to show that I was wasting his time. "They're all about me," I said. "I'd like to turn professional."

"Don't be silly," he said. "A lot of good artists are out of work. A newcomer doesn't stand a chance."

"Will you let me try? May I show you what I can do?"

He shook his head. "Sorry," he said, and handed over the cuttings. I tried to plead, but he was already on his feet to show me out.

Outside, I went to a snack bar to think things over. There seemed no other way to break in, and this fellow was not all that unreasonable. I walked the streets, pondering the next move, and decided to take digs close to Collins.

I was soon fixed up with a room, and next morning I was at the theatre when the manager arrived. "You again?" he said, smiling. "I'm sorry. It's no use. You'll have to try and be sensible about it."

My mouth opened, but I didn't get a word out.

In the evening I tried once more, waylaying him as he left the theatre. He wasn't pleased to see me.

"All I want," I persevered, "is one chance. If I'm no good then I'll go away and never worry you again."

He paused, studied me for a few moments, then apparently made up his mind and walked off along the street.

There were times in the three weeks that followed when I nearly gave up and applied for my old job with the G.P.O. Wherever I looked there were young men, obviously ex-Service, going about their daily work; settled, organized, regularly paid. But I kept waylaying the manager of Collins.

I approached him in the street, in the foyer, in the theatre bar, and I reckon he must also have been seeing me in his sleep.

Eventually I nailed him one evening at the theatre entrance and he waved his hands defensively and exclaimed: "All right! All right! I'll put you on first house Monday. But if you're no good will you promise to go away and leave me alone?"

"I promise," I said. "But what if I make it?"

This contingency had evidently not occurred to him, but he said: "If you last the week I'll pay you five pounds."

Now that the chance had come I was jittery. I read my contract through minutely and noticed that there was to be a rehearsal at ten o'clock on the Monday morning. Later, when I saw the posters advertising the show, I had to get up close to find my name, not much bigger than that of the printer at the bottom. I was on with the wines and spirits just after the interval.

In the army concert parties I had been accustomed to exhaustive rehearsals, with complete props and make-up, but I found that this ten o'clock rehearsal wasn't like that. I felt stupidly amateurish, but an old music hall veteran called Ed Jackson, who was also on the bill, took me aside and consoled me with the explanation that it was really a band call, not a rehearsal. "How long have you got tonight?" he asked.

When I told him twelve minutes he said: "Well, take my tip and don't do any more."

Jackson was really helpful. He tried to calm me just before the show, when I wished I had become a night telephonist again. He gave me

Continued on page 61

"You mustn't," Tina said. "It isn't safe. If Father or Stephanos knew, they'd kill us"

Golden Goddess

by ***BRIAN CLEEVE***

ILLUSTRATED BY OSTRICK

Nicki had almost died for the fortune in his hand, and nearly lost Tina too. But what was the use? He still had to face Stephanos . . .

He heard her voice from a long way away, through deep fathoms of sleep. He had been dreaming of the sea, dark blue as sapphire, cold as moonlight on his naked body, and of great sponges like pale reflections of the moon, cool and beautiful on the rock ledges of the sea's floor. He woke slowly and reluctantly, trying to pull the thin blanket over his ears. But she had her arm through the window opening now, her forefinger pressed against the side of his neck where it would wake him silently.

"Nicki," she whispered, "wake up. The storm has blown out and the current is running against the Point. In half an hour the sand will be shifting. We can be out and back before Father knows I'm gone."

He came upright at that, the blanket falling away from his bare, tanned chest, his fingers rubbing at his eyes. The girl dropped to the ground, waiting for him to dress, and turned to look at the sea. It spread outwards almost from beneath her feet, the blue silk immensity of the Aegean, stretching endlessly past Chios to the north, and south to Crete far over the horizon, and westwards to Greece, where the newspaper came from every month, and beyond that to places like America, where the men with spectacles digging on the other side of the island had come from a year ago.

The last tail of the storm wind flicked a strand of hair across the girl's cheek, dark and warm as black silk against the honey gold of her skin, and she pushed it back with impatient fingers. Out beyond the bleached white rocks of the headland the sea was racing, great blue shoulders of water heaving and lifting. It would be dangerous to dive in it, but it was only when the sea ran like that after a storm that there was a chance; a chance of seeing the ship.

"Tina," Nicki said just behind her, and she felt his hands slide under her elbows, gripping her waist and lifting her until her cheek was on a level with his mouth. "It's like old times."

Yes—it was like the old times, before they were grown up: before his father had died and he and his mother had become too poor for him to hope any longer that he could marry Tina; old, old times, before there was any Stephanos, with his mainland clothes and his money that he dangled in front of Tina's father like a carrot in front of a donkey.

"You've grown since I kissed you last," said Nicki. "You've got quite fat." Six months ago he could have spanned her waist with his two hands. Now there was almost an inch between his finger tips.

"Let me down," she said fiercely, "are you mad?"

The sun was lifting one golden eyebrow over the mountain ridge behind them, but the world was empty; the still sleeping village hidden by a shoulder of the cliff, the valleys where the shepherds must already be out with their wild, longhorned sheep, too far away for spying. He kissed her again, this time on the mouth, and she closed her eyes, gripping his arms so hard that her fingers left white marks on his skin.

"You mustn't," she said. "It isn't safe. If Father or Stephanos knew, they'd kill us."

"Stephanos!" he said bitterly.

Stephanos had been to Athens. He was already half accepted by Tina's father as her future husband. Stephanos had a motor-boat and an aqualung, letting him harvest the great golden sponges that grew far out where the sea floor dipped and fell below two hundred feet, far below any depth that Nicki could work with nothing but a leaking rowboat and his bare hands.

And in the shallow coast water there weren't any sponges any more; none worth selling. Oil from the ships had killed them. In a year or two it would be impossible to earn a living, let alone the money for a new boat and an aqualung, and bride money for Tina.

Unless they found the ship. . . .

They were picking their way down the cliff path now, the sea blue and shimmering close below them, Nicki's boat drawn up on the narrow new moon of sand; and, away from it, aloof and sleek, Stephanos's slim white boat with its outboard motor in a green canvas cover.

There was something alien about Stephanos's boat on that beach, like a shark in shallow water where people bathe; a hint of menace and brutality, as there was in the man himself, with his narrow, unblinking eyes and his stiletto with the ostentatious notches on its black hilt.

Nicki tried not to look at the boat, not to think of Stephanos's big, black-haired hand closing on Tina's arm, and his cold voice saying: "She's going to be mine. If I find you kids out in that hulk of yours again, I'll run you down, and I've a six-foot boathook that says you won't get back to shore by swimming."

He turned his eyes away from the motor-boat and tried to forget it and everything it stood for; tried to think that this was just another morning, like a thousand other mornings they'd had together before there was any Stephanos, any need for hurry, or secrecy, or money, or anything in the world but being together, kissing gently and softly in the Aegean sunlight.

Out by the Point the sea ran like a great horse carved in sapphire crystal, huge muscles rolling, and Nicki felt his heart lift with a sudden whisper of excitement as he saw it.

"I've never seen it run so fast," he said. "Maybe . . . maybe today we'll be lucky."

Maybe today the currents would shift the

Stephanos lunged. Nicki felt the power . . . but he stopped the knife

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sand deep under the sea's racing surface, sixty-five, seventy feet down, laying bare for a few hours the sunken, crusted timbers of the ship; the great Venetian galley that had sunk off the Point four hundred years ago on a night wilder than last night, the great red sail embroidered with the Lion of St. Mark torn to bloody rags in the howling darkness, the crew screaming against the wind until one last wave-smash brought them eternal silence, twisting down and down into the cold darkness of the Aegean to lie on the sea floor for ever, the ship slowly filling with silt and sand, growing a new rigging and livery of dark green weed.

For four hundred years the sunken ship had been a legend on the island. Twenty generations of sponge divers had tried to reach it and find its hidden treasures. But the sea kept its secret. Only once or twice in a year the spring storms were wild enough to clear the sand away, and then only for an hour or less, showing the faint outline of the poop, or the jagged, weed-grown stump of the mast. Then the sea died and the sand crept back again.

But maybe today . . . ?

"Help me push her out," said Nicki. The boat was heavy, the timbers spongy and always half waterlogged, and she rode low in the water, rolling sluggishly in the first whisper of the swell. Tina knelt in the bows, her eyes fixed on the Point, her dark hair whipped on the wind. She looked over her shoulder and smiled at Nicki sculling in the stern.

"Today," she said, and he held up his thumb and grinned at her. If only this could be for ever, the two of them alone. But the sea lifted the boat like a sullen cork, and he stopped thinking about anything but handling her. Spray stung his eyes as the bows slapped down into a wave trough, and he kicked off his sandals to grip the wooden planks with his bare toes and set his body to the rhythm of the sea.

Ten minutes later they were off the Point, and he sculled in a dozen yards until they were half-sheltered. "Keep her here," he said to Tina. He peeled off his shirt and trousers and stood up in his trunks, his shoulders brown and sleek as satin against the blue sky, swaying easily as the boat twisted and heaved under his feet.

But Tina was already hefting the sea anchor over the side. "I'm coming down with you," she said.

"In this?" His mouth hung open with shocked astonishment.

"Pooh!" she said, laughing at him, pulling her dress off and balancing on the side for a moment. He made a lunge at her and lost his footing, and before he was up again she was in the water, pushing her hair out of her eyes and laughing. "Are you never coming, Nicki?" she called up to him. "Is mamma's precious angel frightened of the big waves?"

She flicked her white feet and was gone, an ivory shadow rippling and gliding down and down, ten, twenty, thirty feet below the surface. Nicki filled his lungs and dived. He felt the surge and tug of the surface current like cold lips on his skin, and then he was down into the undertow, a steady pressure like a solid wind curving off the steep rocks of the Point.

He let it carry him, the stone he was holding taking him deeper and deeper. A long way ahead he could see Tina, pale and swift as a white dolphin, and he could feel the pressure building in his lungs.

Fifty feet . . . sixty . . . and below him the yellow plain of the sea floor spread, palely lit by the filtered sunlight, with a horizon of ten or fifteen yards ending in a black wall of midnight water.

The current was weak at this depth, hardly pressing against them, and the sand was almost still, only the surface grains shifting and sliding. But suddenly, ahead of them, the horizon began to narrow. A great cloud of sand was lifting from the sea-bottom as a quirk of the current reached down and stirred it. Was there a shadow there—a long, curving shadow like the side of a tilted ship?

They swam into the turbulence and felt the suck and swirl of the lifting water; and below them, clearer than any diver had ever seen it, lay the ship.

The prow had broken away, but the central mast stump was there, and the hummock that would be the poop; and, even as they swam over it, the sand shifted still more and there was a sudden blackness beneath them, like a door opening. The cabin itself lay open.

They looked at it, and then at each other. If they were going in, it had to be fast. Very fast; already Nicki could feel the air stale in his lungs and his heart drumming. He slid forward, almost without giving himself time to think; and then, suddenly, he was inside the ship, in a tight blackness darker than any sea cave, and more frightening.

The blood beat at his ears and he knew that the most they had was another minute, maybe a minute and a quarter. He began to feel with his hands, sometimes brushing against Tina, both of them digging in the deep, soft silt that still half-filled the cabin.

Any treasure would be in a corner, fallen there; a bag of coins, a jewelled ring. How could a man find anything so small in this half liquid, half solid darkness?

As Nicki thought the question, his finger closed on metal; a heavy round of smooth metal; and, springing from it, a slender column, full of curved surfaces that felt delicate and graceful to his fingers even through the slime of four hundred years.

Treasure! All at once he felt dizzy, as if he were drunk. For a long moment he played with the idea. "I'm drunk," he tried to say. He flung his arms wide, slicing his knuckles against barnacle-crusted timber, skinning them, and the shock sobered him again. He wasn't drunk. He was dying. And if he was dying how could Tina be still alive?

Frantic, he put up a hand and touched the ceiling of the cabin, moved left, then right, and touched her, floating still and motionless as death. He got one arm round her and felt in the darkness for the opening, stabbing at the timbers with the metal column clutched in his hand.

He felt round and round in the darkness, the seconds drumming against his bursting ears, thudding, thudding, with Tina floating on his arm in a ghastly saraband of darkness. Again and again he stabbed, and each time struck the timbers . . . until suddenly he was through; not into fresh air, but into deep water, seventy feet deep and heavy as the clay on coffins.

He had to go up. He didn't know why he had to, but it must be up. And he had to take Tina with him.

He couldn't see any more. He could only feel the growing brightness on his eyelids. Up and up he went. There was a sudden burst of pain like a knife-stroke. And then there was air and a blinding brightness.

"It hurts," Nicki whispered, and watched a

Continued on page 48

Sir Mortimer Wheeler introduces a guide to our fabulous tomorrow

SCIENCE, SPACE and the FUTURE

EVEN today the strides of science make us gasp. But what of tomorrow? Then we may travel in cars that need no driver: we may fly in drugged luxury at 3,000 m.p.h.: we may tame volcanoes for our power. The future is incredible—until we hear the experts

No Name on the Door

Beginning A. H. Williams's fascinating real-life story of the millionaire who taught the women of Britain how to shop

TWO BRILLIANT SHORT STORIES

Sam Shuttle's Silver Spoon

by CLIVE BURNLEY

Headhunters of Ianagl

by OLAF RUHEN

IN JOHN BULL NEXT WEEK

Cross-country riot on wheels

by REX GRIZELL

Alan Jackson leads the field in Britain's latest cycling craze. If machines fail, riders get new ones—or run for it

Jackson, British cyclo-cross champion, pushes up a hill. Often competitors have to walk or run a third of the way; many drop, exhausted

In the 1955 national championship part of the course was up a railway embankment. And at the top it followed the narrow rim of a gravel pit

A QUARTER of a mile from the finish of the national cyclo-cross championship of 1954, Alan Jackson was leading his nearest rival by more than half a minute. He had slogged his way grimly up and down hill through more than twelve miles of snow and mud, carrying or running alongside his bicycle for more than a third of the distance.

Looking a certain winner he put in a final spurt. As spectators shouted him home Jackson rode over a three foot drop, and lay winded, face down in the mud. He picked himself up and found his bike out of action, with a buckled front wheel.

Gasping for breath, Jackson shouldered his cycle, and started to run for the line as the second man rapidly closed the gap between them. As Jackson came level with a lapped rider, who was three miles behind and nearly dropping from exhaustion, the man called out, "Here, take my machine." Jackson grabbed it, and raced to the line for a five-second victory.

"Iron Man" Jackson, a twenty-two year old London plumber, is the toughest performer in one of Britain's newest and toughest sports.

Cyclo-cross courses are usually from six to fourteen miles, but championships are held over twelve to fifteen miles. Competitors may have to run a third of the way pushing or carrying their bikes. Every course includes parts which are unrideable—steep slopes, stiled or gated paths, and ploughed fields, where the course always runs across the furrows.

The combination of weather conditions, brutal terrain, and the need to change constantly from riding to running and carrying—or even climbing and carrying—make cyclo-cross a test of endurance as grim as marathon running, says Jackson. Many riders, battered by repeated falls, drop from exhaustion. Others are forced to give up because their bikes are useless.

The sport is well-established on the Continent, where courses commonly include ski-jumps, narrow, loose-surfaced and unfenced mountain paths, thickly wooded hillsides, and plank footbridges with room enough for only one cycle. It is a winter sport; home or abroad, snow a foot deep, pouring rain, blizzards, frozen streams, ground frozen into knife-edged ruts, or thick mud are normal additions to the hazards of courses deliberately chosen to be as dangerous as possible.

In most cyclo-cross races, between a third and a half of the starters fail to complete the course, but Jackson has finished in every one of his twenty-five events.

Twenty-one times he has won. Three of his four failures he puts down to mechanical trouble. Once when his chain broke while he was leading

Snow, ice, sleet and slush are normal hazards

he lost eight places; he mended it and finished fourth. He won the south of England championship of 1953, was narrowly beaten the following year after seven weeks in the army without practice, and won by more than a mile this year.

In the world championship at Saarbrücken in 1954 he was the leading British rider. He is also a successful road racer and hill climber, and won seven of the thirteen silver cups offered by his club in 1954.

In the 1955 national cyclo-cross championship, competitors had to carry their bikes up the almost sheer side of a railway cutting. At the top they found themselves on a narrow path running round the rim of a disused gravel pit. On the third lap one rider came up from the railway and, blinded from exhaustion, staggered helplessly across the path and plunged thirty yards down the slope into the pit. His injuries forced him to retire from the race.

Farther round the rim of the gravel pit, the path forked. The left-hand side looped round some bushes, the right-hand side followed the extreme edge of the pit, and sloped towards it. On the first lap Jackson, a forceful rider, already leading the field, unhesitatingly chose the shorter and more dangerous route.

He skidded and fell, bike on the path, legs down the slope. He scrambled up and found the bike undamaged: but the fall cost him the lead.

Next time round he was back in front. He took the shorter route again, and fell again. This time he was up and away before anyone caught him. On the final lap he was minutes ahead of his nearest rival, but he took the shorter route again, faster than ever. He got through safely.

"Every yard counts in cyclo-cross. You may be in front by a mile, but anything can happen," says Jackson. "The longer your lead, the more time you have to deal with emergencies."

Other successful riders endorse this view. "Even if you're lying fourth or fifth you've got to keep pushing yourself to the limit. In cyclo-cross, like the Grand National, the race isn't over until the winner's home. The leading man

in cyclo-cross racing. Courses go over ploughed fields, through woods and down mountainsides

may break his collar bone, the second man may ruin his machine."

Fortunately, in mishaps it is the bike that usually suffers. In the three years since the sport started there have been broken collar bones, broken ankles, and many cases of concussion, "but no really serious accidents." At full speed Jackson was once trapped in a frozen cart rut, and was thrown head first into a bramble thicket. He clawed his way out covered in deep scratches. He remounted and won.

The rules of cyclo-cross allow bikes to be changed during the race. In one event Jackson used four bikes. He buckled the front wheel of the first, broke the handlebar stem on the second, had a rear wheel puncture on the third, and finished an easy winner on the fourth. One rider used seven bikes in one race. Another who buckled his wheel when there were no spare machines removed it from the forks and jumped up and down on it to force it into shape.

JACKSON'S racing tactics are simple. He sets a killing pace from the pistol shot, and tries deliberately to "burn out" his rivals. "There's no nonsense about a waiting game in cyclo-cross. There's only one place to be and that's out in front. I like to be so far in front I can't see anyone behind," he says.

Apart from securing a psychological advantage Jackson's tactics give him first look at all danger spots. Riders bunched behind often have spills because they cannot see what is coming next.

Once in front Jackson never relaxes the pressure. As a result he often wins his races by ten minutes or more. Once, he had changed his clothes and finished a cup of coffee and some sandwiches before the second man came in.

Cyclo-cross races usually have a massed start followed by three or four laps of a course marked by arrows fixed to gate posts and trees.

At one meeting in Kent seventy riders disappeared over the brow of a hill at the start of the first lap. Fifteen minutes later officials looked at their watches ready to check the distance between Jackson, whom they always expect to see first, and the second man. Twenty-five minutes went by and still no riders appeared.

Officials set out to look for them. Three-quarters of an hour passed before the riders, still together, came over the hill. Some enterprising children had altered the positions of the arrows so that the riders found themselves nearly ten miles off on the road to Maidstone before they decided that something was wrong.

Chaos also resulted in a race when children discovered that another cycling club was holding a chalk-chase, marked by white arrows on the road, within a mile of the cyclo-cross course. One changed arrow directed the cyclo-cross riders on to the chalk-chase route.

British riders lag far behind Continentals in cyclo-cross racing, says Jackson. At Saarbrücken he "rode himself silly," and still finished thirteen minutes down on world champion Durfraisse. He describes Continental riders as ruthless; when he tried to pass two riders, they forced him off the path on to rough ground where he fell off. On the next lap he caught the same riders at the same place and they forced him out again. He hit a boulder and took a bad fall.

Jackson's view is supported by Keith Brock, secretary of the British Cyclo-Cross Association, who competed in the 1953 world championship at San Sebastian in Spain. In the first lap Brock found himself neck and neck with Robic, then world champion, as they tore down a mountain path towards a narrow opening in a fence. The gap left room for only one bike. As they came towards the opening, Brock felt Robic trying to force him out.

"One of us had to hit the fence," says Brock. "I didn't see why it should be me." He refused to budge off the path, and so did Robic. As they funnelled in together Brock's knee hit Robic's handlebars and the world champion piled into the fence. Unable to continue, Robic was still there next time round shaking his fist at Brock.

Later in the race Brock had a very bad fall, remounted and rode on. His bicycle weaved drunkenly from side to side. Officials tried to persuade him to stop, but he refused. He completed the course, and the British team came eighth.

After passing the post he collapsed and was taken to hospital with multiple bruises and severe concussion. He was awarded a gold medal for the most courageous rider.

"Many Continentals ride hard because it is their business," says Brock. "If they don't win a number of prizes during the season they starve." The 1953 course included a sixteen foot drop so steep that it was "like riding off the side of a house." Most riders dismounted, and got down it as best they could, but some, says Brock, went at it at full speed and either put themselves out of the race or gained fifty to a hundred yards.

There have been recent investigations by the Union Cycliste Internationale, the controlling body of international cycle racing, into the use of dope by some cyclists. Both Brock and Jackson believe that only dope could make them take risks of that nature. The U.C.I. found sufficient evidence to recommend that saliva tests should be ordered in cases of doubt in championship races.

Brock, who has not raced since his accident, set about organizing the sport in Britain on his return. Ten riders attended the meeting to plan the first race, and there were 210 entries, of which 150 were taken on the starting line. The race was held at Ripley in Surrey and the start, originally planned for eleven o'clock, was made at two thirty.

Traffic was held up for miles in both directions from the starting place on the Portsmouth Road and Brock, who had neglected to obtain permission to use the common, soon had motorcycle police after him. "For some reason, they were unable to catch us."

Jackson was the winner. Early in the race the riders had to negotiate a steep muddy slope. Some tried to ride it, others tried to push the bike down. Jackson picked his machine up and started to climb down. "I slipped and skidded down on the seat of my pants still holding the bike," he says. "I passed three chaps on the way down, and set off from the bottom with a clear lead."

He has never looked back since. THE END

Jackson, winner of another race, greets his wife. Once, he had washed and changed before the second rider finished the course

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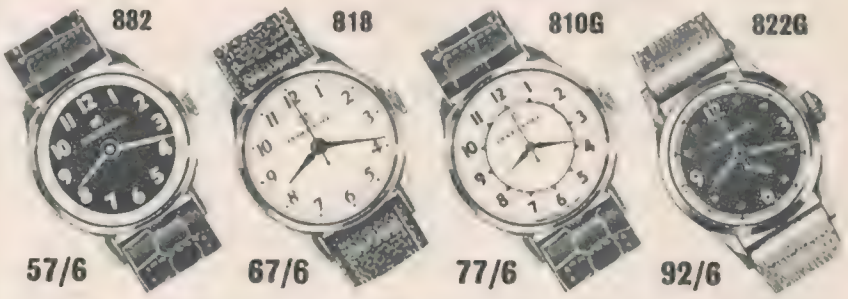

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In Iraq Robertson takes a desert soil sample with an auger. On one trip his men had to dodge Arab bullets

Hidden harvests in the desert

by DON EVERITT

Vernon Robertson's soil teams spearhead the war against hunger. They bring new life to the waste lands of the world

ON a soil survey in Iraq, Vernon Robertson's expedition ran into the middle of a battle between two feuding villages. The scientists, in two Land-Rovers, dodged the rifle bullets and sped out of range. But they still had to complete their survey.

When the shooting died down, Robertson went independently to the two village chiefs to explain his business. Both made promises not to harm his men. The next day, the scientists had to cross the battleground. They approached cautiously—for an attack had begun.

Suddenly, an Arab stood up on a ridge, and, in the manner of a traffic policeman, held up hostilities with one hand and waved the Land-Rovers on with the other. Then the battle continued. "The traffic-signalled truce," says Robertson, "continued to work without mishap."

Robertson is technical director of a firm which investigates the best use to which a man can put his land. In the Middle East, where he has done the bulk of his work, Robertson has grown accustomed to the hot-blooded inhabitants hindering him and his staff.

On one recent occasion, as a soil scientist drove towards a group of Arabs, one opened fire on him with a machine gun. The scientist turned and fled. Robertson's inquiries revealed that Arab policemen had captured smugglers with a hoard of tobacco, and, while one had gone for transport, another had stood guard, adopting towards all approaching strangers a policy of shooting first and asking questions afterwards.

"Fortunately," says Robertson, "the Arab is not a naturally good shot."

A Scot without a brogue, the tall, athletic and imperturbable Robertson heads a group of scientists who work for Hunting Technical Services, the newest division of a large shipping, oil and aviation concern.

In the last three years, Robertson's men have undertaken extensive investigations in virgin, derelict and underdeveloped regions stretching from the Hoggar Mountains in the Central Sahara to the Philippine Islands in the Pacific. These surveys, covering areas up to 36,000 square miles, have taken the scientists into remote mountain, desert and forest land.

Vernon Robertson says: "A recent world census showed that the population increased by ninety-two million in three years. With land being consumed so fast, we need to see that we get the best possible use out of every acre."

FOR a three-dam irrigation project designed to reclaim nearly four thousand square miles of Iraqi desert, Robertson had not only to select the land suitable for cultivation but to assess the needs of the individual settler farmer, with a wife, another dependent adult relative and four children. To maintain a reasonable standard of living, how much land did the family need, what crops should they grow and how should they grow them? It took Robertson and his men nineteen months to find all the answers.

From government information they first assumed that the family needed to grow in a year produce worth 185 dinars—one dinar roughly equals a pound sterling. The family would eat thirty-five dinars' worth and sell the rest.

The Iraqi peasant has always kept half his land fallow, but to grow the necessary crops under this system would require an extravagant

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At his Boreham Wood office, Robertson discusses an irrigation scheme. He spends only five months of each year in Britain

Robertson's latest survey was of this swamp in Nyasaland. To avoid disease, he has "every possible injection" before going abroad

THE INVISIBLE BOY

by EDMUND COOPER

ILLUSTRATED BY ZELINSKI

Maybe young Timothy hadn't started life as the genius his father expected. But at least he'd been flesh and blood

As a fond father, Doctor Thomas Merrinoe fell somewhat short of the conventional standard. His wife Mary, a sensible blonde, had much difficulty in persuading him that babyhood and infancy were not only desirable but necessary. With characteristic impatience, Doctor Merrinoe had hoped to teach his young son Timothy chess at the age of three, and the differential calculus by the age of four and a half.

As the director of a team engaged in designing and building electronic brains, Doctor Merrinoe argued that science should be applied to life. If it was possible to make an electronic brain carry out all the processes of mathematical reasoning, why could not the same be done to a small boy?

He found the answer very quickly. It was tragically simple. In the matter of learning, the machine had no option; the boy had.

By the time he was ten, Timothy had not only managed to destroy Doctor Merrinoe's faith in every known method of education and driven him to seek consolation in bigger and better electronic brains; he had shown that he could ignore the science of mathematics completely. Thus, at the very apex of Doctor Merrinoe's career when, after three years of unremitting labour, he had brought to completion the electronic brain called Peeping Tom, the fruits of victory tasted slightly sour. He had built a brain that could see, hear, speak and—in a limited sense—feel. He had developed Peeping Tom so that it could answer questions that nobody was clever enough to ask. Yet he could not teach his own son that half of a half was a quarter.

Sitting, one afternoon, in front of Peeping Tom's chromium-plated face, staring at his television-screen eyes and his loudspeaker mouth, Doctor Merrinoe felt no elation at all—only a faint bitterness. It was, he thought, a matter of regret that you could work out blueprints for practically everything except babies.

Recently he had acquired the habit of talking to himself—but though his present reverie was no more than a quietly mumbled monologue, he was soon reminded that he was not quite alone.

"I beg your pardon, sir," boomed Peeping Tom, "but would you kindly state the precise terms of reference?"

Doctor Merrinoe blushed guiltily, then remembered that Peeping Tom was only a machine, after all. "Go to blazes, you great glorified pianola! I wasn't talking to you."

"Sorry, sir," returned Peeping Tom abjectly, "but as there appears to be no one else present, and since you designed me to tackle all questions, I concluded——"

"Switch yourself off," interrupted the physicist. "Go to sleep."

Peeping Tom's eyes glowed reproachfully. "Yes, sir."

"No, wait a minute," snapped Merrinoe. "Are you intelligent?"

"No, sir. Merely clever."

"Correct. Now tell me who made you, who owns you, and what you're worth."

"You designed me, sir, and your team constructed me. I'm owned by Orion Electric, Ltd., who paid two hundred and forty-five thousand, three hundred and sixty-seven pounds for materials and construction."

"That's right," agreed Doctor Merinoe. "Can you beat me at chess?"

"Yes, sir."

"Can you calculate how many atoms there are in the cosmos?"

"Yes, sir—approximately."

"Can you work out how much rice the probable population of China will consume in 1975?"

"Yes, sir."

"Then," said Doctor Merrinoe with irony, "you will doubtless be able to solve a comparatively simple problem. Why does a baby suck its thumb?" He sat back complacently, waiting for Peeping Tom to admit defeat.

"A baby sucks its thumb," replied the brain unexpectedly, "for the following reasons: (a) because it is weaned too early, (b) because it is teething, (c) because it experiences insecurity, or (d) because it is hungry. If thumb-sucking persists, it is recommended that——"

"I'll be darned!" said Doctor Merrinoe. "Who filled you up with that stuff?"

Peeping Tom seemed to enjoy his moment of triumph. "You did, sir," he purred. "During the first test, you arranged for me to store the contents of a thousand assorted handbooks in my memory banks."

Doctor Merrinoe was slightly furious. "Well, then, you ampère-sucking incubus, perhaps you will kindly tell me why my son, Timothy, combines the physical characteristics of *homo sapiens* with the mental ability of an anthropoid ape?"

"According to the theory of evolution," began Peeping Tom sententiously, "a primitive life form is capable of ——"

"——beating your dull-witted circuits out with a large

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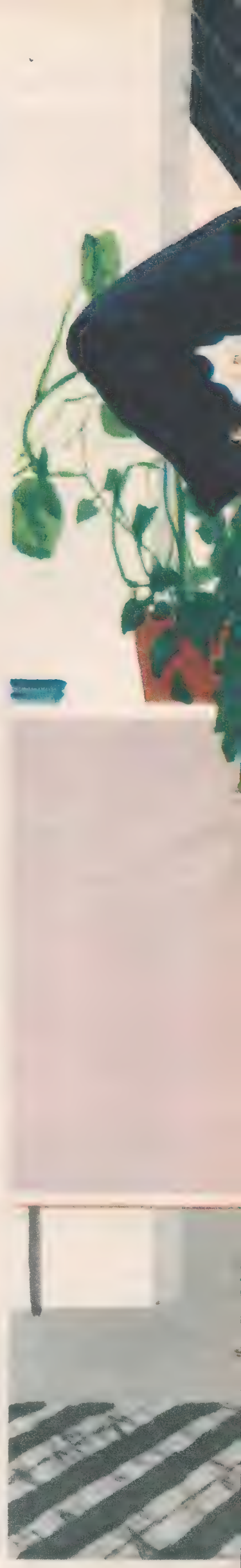


"Ha

SIR MORTIMER WHEELER introduces JOHN BULL'S guide to . . .

MARVELS OF THE MODERN WORLD

WE live in an age of science: of this we are constantly reminded by the emergence of new techniques and the improvement of old ones, and we face with mingled hope and apprehension a future in which ingenious technical devices will increasingly replace direct human effort. But it would be quite wrong to limit the word "science" to this sort of mechanical advancement. The word means basically just "knowledge," and knowledge of course extends far beyond the confines of applied discovery. It comprehends the intimate study of our minds and instincts, of our relationships with others and, not least, with ourselves.

Of this we are all of us, however inexpertly, in some measure conscious. Even those of us who are most ignorant or most casually informed are daily applying some fragment of new knowledge, if only in a fumbling kind of way, to our mental and physical experience.

Indeed it is safe to say that the conversation in a modern bus or railway carriage would often enough be entirely above the heads of an Isaac Newton or a Faraday. In certain respects—not always very important ones—we ordinary folk of the mid-twentieth century could boast that we are wiser, or at least more knowledgeable, than our modesty might admit.

But don't let us get swollen-headed about this. Do we really know *enough*? The answer is No, and again No. We may have scraps of knowledge, but have we understanding? Knowledge only becomes really significant when it is intelligently interrelated. Every new invention in some sense alters the balance of man and environment. Wireless and aeroplanes alone have within a single generation radically altered the balance of more than three-quarters of the globe; the uneasy potential of nuclear energy is still beyond our grasp.

These innovations and a myriad of others compel constant and urgent adjustments in our way of life. Nothing nowadays is remote from us; discovery treads upon discovery, problem breeds problem, and it is all crowded upon us in the stop-press news. It is not enough that our minds must nowadays be alert as never before. They must also be *prepared*, which is merely another way of saying that they must be educated, must have knowledge. And that knowledge must be accurate and intelligent knowledge; it must combine in our minds to form a picture of the world in which we live, and of the factors that have gone and are going to the making of it.

That is why JOHN BULL has, in this Supplement and its sequel, thought it worth while to put together, under expert guidance, a review of some of our recent advances in knowledge, and a forecast of some of the likely developments in the future. In a period of unprecedented development, the quest for knowledge of this sort is full of excitement and adventure. Indeed, the story of advancing knowledge is, in a real sense, the "adventure story" of our present age.

It was not always so, at any rate in the same degree. There was a time when material progress was almost unbelievably

PULL OUT THESE EIGHT PAGES AND KEEP FOR REFERENCE

slow. Modern science tells us that human beings, creatures more or less like ourselves, have existed on earth for something more than half-a-million years.

Now, in all that succession of years I should say that there have been *three* human episodes of wholly outstanding moment. These have been successively the Discovery of Fire, the Discovery of Food Production and the Discovery of Mechanical Energy.

The first of these is nearly as ancient as man himself; for example, an extinct species of man identified near Pekin could already kindle fires for cooking and for protection, and is estimated to have lived between three and four hundred thousand years ago. Then came the long pause, lasting hundreds of thousands of years. It was not until something like ten thousand years ago—a mere yesterday—that the next great episode occurred: the discovery of food-production in the form of domesticated herds and cultivated crops.

But, recent though it be, this revolutionary discovery may be said to have marked the main turning-point in the human story. From the moment when man began to control his food-supplies he was able also to live in sizeable communities and to support specialists. In other words, he was at last on the arterial road to civilization. Compared with that, the third epoch-making innovation—the harnessing of mechanical energy in the form of steam, electricity, oil, and now nuclear or atomic power—must take a rather lower place, although for us today it dominates the scene.

Of course there have been many other discoveries of high and even dazzling importance within the range of the great three. Such was the seemingly humble invention of the wheel, more than five thousand years ago and far away in Mesopotamia; or, more recently and nearer home, the tremendous discovery of the principles of evolution, of which, as propounded by Charles Darwin, we shall be celebrating the centenary in a year's time; or the innovations of sterilization and anaesthetics which transformed nineteenth-century surgery from a horror into a blessing.

It is indeed with advances of that secondary order that these Supplements must be primarily concorned: with advances in mass-communication, mass-healing, and mass-destruction; with an environment that, for all of us, is developing so swiftly that, lacking a clear head and an informed eye, we run the risk of becoming dazed and confused and of losing our sense of just proportion.

Modern science has not yet prolonged the total stretch of the human lifetime. But it has done the next best thing by enabling more of us than ever before to survive to a ripe old age. A child born today may fairly expect to live twenty years longer than did a child born only half a century ago.

Actuarially, it is by that much the better worth while to extend the systematic diffusion of knowledge throughout the adult life of every one of us. It is easy enough today, as long ago, to sow the wind and reap the whirlwind. It were better to sow with knowledge and reap with understanding.

Barbara Ward

THE GREATEST PROGRESS MANKIND HAS EVER SEEN

EACH day, man coaxes a little more from the surface of the earth. He needs to. Every twenty-four hours, the number of people to be fed, clothed and housed grows by 90,000.

Never in history has mankind multiplied with the speed at which the human race is expanding today. The rate is accelerating. In 1900, the world population was 1,550 millions. Today, it is nearly 2,700 millions. An increase of 1,000 millions is expected by 1980. At the end of the century there may be 5,000 million people.

Population growths vary, partly because of emigration. In North America, the yearly rate is 1.6 per cent; in Europe, 0.8 per cent; in Australasia, 2.5 per cent. Industrial expansion overtakes these figures. But man is never content merely to live. He wants to live better. Year by year, he demands more and more of nearly everything.

Nearly all the rich countries have (or may soon have) a power shortage. During the last twenty years, industrial production has doubled, but the supply of energy has risen by only one half. Once again, man's restless ingenuity is rising to the occasion. Nuclear energy is being developed in the nick of time to relieve the pressure on the world's supplies of coal and oil.

About ninety-five per cent of the most important mineral supplies are taken up by the rich countries. The U.S.A. alone takes about half. Since 1937, the amount of steel consumed per head has risen by more than half in the U.S.A., by just under one half in Britain. Lead, zinc and tin are already scarce, and at the rate they are being consumed today supplies may not last more than thirty years. Advancing mankind takes all this in his stride. Year by year, he finds new sources of supply for some minerals, and develops synthetic materials. The housewife uses a polythene dishbowl instead of a metal one, finds it better, and scarcely notices the marvel that has been achieved.

We are eating more food. An American eats four pounds of meat now for every three he ate prewar. In Britain, milk drinking has increased by the same proportion. Italians consume twice as much sugar as they did twenty years ago. And we are wearing more clothes. Consumption of cotton, rayon and wool—the principal clothing materials—is constantly rising.

In the rich countries, the twentieth century challenge is to find new ways of satisfying demands for ever-higher living standards. In the poor countries, the problem is more basic: to raise from poverty 1,800 million people—two-thirds of the world's population.

In Asia (excluding the U.S.S.R. and Japan), Africa and tropical Latin America, the yearly income per person is rarely more than £50. Sometimes it is as low as £10. Seven out of ten people work on the land, compared with one out of twenty in Britain There is little industry to create wealth and little capital or skill with which to start it.

In these countries, populations are rising at the rate of 1.6 per cent—28 million extra people every year: 350 millions since 1939. In the same period, food production in the Far East has hardly risen at all.

Many of the lands are overcrowded. Asia has half the world's people, only one-fifth of the world's land area. In India, there are 293 people to the square mile, in China 156, in Japan 609—compared with only four in Canada and fifty-three in the U.S.A. Britain's high density of 539 can only be supported by industry and trading. In the East, only the Indian and Japanese governments promote campaigns for fewer children, and their success is limited.

By the year 2356, if population growth continues at its present rate, the whole world will have the same density of people living on it as Greater London has today. But long before that a danger limit will have been reached.

People are the twentieth century's problem. They are also its driving force. More and more people. More and more demands. These present a challenge which is being met by the people themselves as science and industry are increasingly harnessed to their efforts. No period in history has seen a comparable advance. But it is still true that the battle to create a world free from want has hardly begun.

FOOD

AGRICULTURAL scientists are near to the most spectacular discovery in the history of farming: the secret of how a plant creates food from the air and soil. The process is known as photo-synthesis. By it, carbon dioxide is taken from the air, and water from the soil. Chlorophyll, the green in plant leaves, converts these substances into oxygen (which is released into the air) and into sugars and starches, which form the body of the plant and are ultimately used as food or fuel by man.

If scientists could duplicate economically the magic work of chlorophyll, factories using sunlight as energy could produce an abundance of food for the world. It would be tasteless, but nutritious, and putting the taste into it would be no problem. Factory-made foods, using no raw materials except water and sunlight, could dramatically outdate present-day farming methods.

Chemists have analysed chlorophyll and know that it consists of carbon, hydrogen, oxygen, nitrogen and magnesium. They know that it reacts to light. By using radio-active "tracers"—isotopes from atomic piles—they have gained new knowledge about the way plants "eat" food.

The "tracer" method has been extended to the search for chlorophyll's secret. Radio-active carbon dioxide is used to show the parts of the plant where photo-synthesis takes place. No one has yet succeeded in producing an exact chemical copy of chlorophyll. Nor has anyone managed to make natural chlorophyll do its work when it is taken out of the plant. But chemists are confident that ultimately they can solve its mystery, one of the most complex chemical reactions known to science.

Conventional farming is already being supplemented by hydroponics, the new science of farming without soil. For more than a hundred years it has been known that soil is unnecessary to a plant except to hold its roots. All the food for a plant comes from chemicals existing in the soil, which are dissolved by rainwater and absorbed by the plant as a solution. Scientists have now found exactly what this solution should consist of and it is now being fed direct to the plants: the results are remarkable.

Seeds sown in loose gravel can be planted much closer together than in normal soil and grow about one-third faster. Yields multiply from two to five times.

In California, tomato plants, which averaged a twelve-pound yield when grown in soil, rose to twenty-eight pounds. In India, an experimental crop of potatoes rose from nine tons an acre to seventy tons. American troops in Korea received a constant supply of fresh vegetables from hydroponic farms in Japan. Already, in America, hydroponics is a thriving industry, and small market gardeners in Britain are turning to it.

The by-products of atomic energy are also coming to the aid of conventional farming. Spectacular improvements in plant breeding have been achieved by using radio-active isotopes. Seeds bombarded with the isotopes undergo cell changes, or mutations. At present, it is a hit-or-miss experiment, but about one in a thousand of the seeds changes for the better—and stock bred from it can be passed on to farmers.

Better crops. Fatter livestock. More machines. This is the story of the advance on the land—an advance that has raised food production in Britain by seventy per cent since 1939.

British agriculture is the most highly mechanized in the world, with one tractor for every 125 acres, compared with one for every 44,000 acres in India. It is in countries such as India, where in terms of food value people eat only slightly more than half as much as the British or the Americans, that the need is greatest. And it is being met.

By introducing a Japanese variety of rice, the Indians have doubled the yield from two million acres of paddy fields. But questing man is doing more. He is learning to make the deserts flower.

The Snowy River scheme in Australia is one of the most ambitious ever attempted. Its aim is to divert the river from the eastern, well-watered side of the Snowy Mountains to the western side, where lie hundreds of miles of arid desert. By building huge tunnels and dams the water is being successfully taken through the mountain.

In Pakistan, 60 million dollars are being spent irrigating two million acres near the Ganges and Kobadak rivers. Ultimately, the plan will take in twenty million acres which are now wasteland. The Saraha desert was once fertile, and already parts of its fringe are gradually being brought back to life. In Libya, drought-resistant grasses are being planted in 15,000 acres of sand dunes as a first step to re-afforestation.

Even at the present stage of knowledge, food in plenty could be grown on earth for 6,000 million people. Yet two-thirds of our 2,700 millions live with hunger. The real need is to close the huge gap between what is known and what is practised.

LONGER LIFE

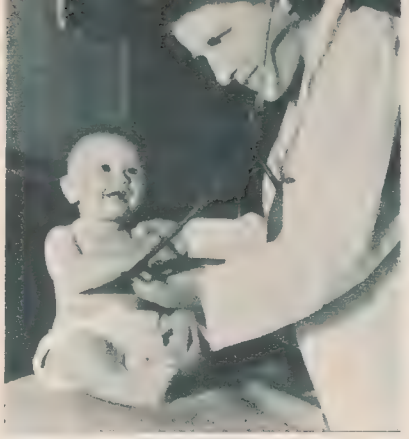
MAN is strengthening his hold on life itself. Almost every child born into the world today can expect to live ten or twenty years longer than its grandparents. The advance of medical science, never faster than in the last ten years, has brought about a dramatic lengthening of the life span.

This table shows the improvement since the early part of the century:

	Males		Females	
	1956	1910	1956	1910
Netherlands ...	70	55	73	57
Sweden	68	52	73	55
U.S.A.	67	50	72	53
Britain	67	51	72	55
France	63	48	69	52
Italy	62	44	65	45
Japan	62	44	65	45
India	33	23	33	23

The greatest triumph has been the control won over deadly diseases which have ravaged the earth throughout the ages—plague, typhoid, malaria, yaws, yellow fever. Ironically, much

FOOD: *More machines and better crops have revolutionized farming*



LONGER LIFE: *Babies born now can expect many healthy years*

HOUSING: *Buildings are soaring upwards, without unnecessary frills*

TRAVEL: *This French locomotive holds the world record—205 m.p.h.*

of this success against nature's killers has been brought about by research prompted by the man-made mass killer—modern war.

Until 1942 the campaign against malaria had been left to quinine and derris root. When the Japanese seized the main sources of these supplies, scientists discovered alternative—and even more effective—weapons. Britain produced the highly successful paludrine drug and then claimed the German substitute, chloroquine, as a "prisoner of war" during the North African advance.

D.D.T. had been known long before 1939, but in the next few years it was revealed as man's greatest ally against pests and vermin.

Its postwar application has been sensational. Greece had two million malaria cases a year out of a seven million population, and five thousand deaths. One year after a nation-wide D.D.T. spraying, the deaths dropped to nil. In Ceylon, where nearly all the population suffered from malaria, the death rate has been reduced by half. Malaria still attacks three hundred million a year and kills three million. But science has already cleared the disease from many lands and is moving steadily towards its total eradication.

D.D.T. is also taking a leading part in world-wide drives to stamp out the insect carriers of yellow fever and sleeping sickness. In addition, science has found out how to build up man's own defences against the great infections. Ehrlich's life-long search for his "magic bullet"—a drug to seek out and kill germs in the body without damaging the tissues—led him to the arsenic compounds. After 606 experiments, he produced the famous compound "606"—and millions were to be spared the terrors of sleeping sickness, venereal disease, and yaws. Then the appearance of the sulphonamide drugs twenty years ago gave medicine the means to overcome pneumonia, meningitis, scarlet fever and dysentery.

Another wartime development was penicillin, hailed as a miracle drug although its potentialities had been ignored for several years after Alexander Fleming's accidental discovery of it in 1928. Penicillin was found to be less toxic than the sulphonamides, with wider scope. Similar antibiotic germ-killers, such as chloromycetin and streptomycin, were soon produced to deal with typhus and tuberculosis.

The most spectacular advances against disease have been made in the backward countries of the world, where success can be measured by the million and where life expectancy has been almost doubled in half a century. But people are also living longer in the advanced countries. Here the secret is a healthy childhood. Diphtheria has virtually disappeared through immunization, and drugs exist to fight scarlet fever and pneumonia. Vaccines against poliomyelitis, influenza and whooping cough have appeared and are undergoing intensive development.

Highly developed countries have their own hazards, such as an accident rate which kills more than three per cent of the population every year. But science is able to reduce this toll with constant advances in surgery and medicine. Blood transfusions make possible the most astonishing recoveries—and nearly 650,000 pints were used in Britain alone last year.

At the moment, however, man's longevity is outpacing research. Doctors are now confronted with a fresh challenge in the diseases of old age—cancer and heart conditions. These were comparatively rare when most people never lived to see their fiftieth birthday. Now, millions live healthily to the age of sixty-five only to succumb to one or the other.

Science has not yet found the complete answer. But already successful treatment is possible with early diagnosis. At the present rate of progress all known obstacles to healthy long life will be cleared within a generation or two. Millions of babies born in the year 2000 should be alive and well to hail the succeeding century.

HOUSING

BRITAIN has never had so many houses. In eleven years since the war nearly two and a half million new ones have been built. All over the world the rate of building far outstrips that of prewar: Western Germany builds half a million houses a year, Sweden and Norway more than thirty thousand each. The United States and Russia have each provided more than a million new homes every year since 1950.

The costs are enormous. Britain now spends more than £600 million a year on housing; the bill since the war amounts to £4,500 million. In the United States it has reached the staggering total of a hundred thousand million dollars since 1946. All over the world housing demands make huge inroads into national finances.

Yet nowhere is it enough. Europe still needs eleven million new homes—to make good the wartime destruction (eight per cent of all homes) and to meet the growth of population and the demand for higher living standards.

Partly, this is the cost of higher standards. Between the wars, local authorities in Britain unconcernedly built houses without bathrooms; today it would be unthinkable. The main aim now is to build more homes with less money and in less space. Architects are cutting out unnecessary spaces and passages, building upwards instead of outwards, and concentrating on essentials and simplicity.

Concrete, plastics, aluminium and timber waste products are replacing brickwork. There have been great advances in the use of concrete. Walls which carry no weight, and floor beams, are increasingly made from it, pre-cast in the factory, usually in the form of large blocks or lightweight slabs. Pre-stressing, a method of running steel wires or rods through concrete and tensioning them before the concrete has set, enables beams, columns and floor slabs to be made with the springiness of timber, but much stronger.

On the site, machines are replacing hand labour. Giant tower cranes lift the prefabricated parts into position and save up to a thousand man hours per house on a large site. In June, 1954, on New York's Park Avenue, six crews of six men took only twelve hours to transform a bare steel and concrete framework into a fully enclosed twenty-two storey office building. The walls, seven hundred prefabricated aluminium panels, were bolted to steel brackets on the structure's framework.

Also to help in the drive for more homes comes the mixed blessing of standardization. Governments generally are guiding house building more firmly than ever before. In Poland standard specifications and designs are provided for seven main classes of dwelling, depending on family size. In Hungary, a national bureau has standardized building parts such as doors and windows and made the use of them compulsory. In Britain, the Ministry of Housing recommends to local authorities a number of plans for house types and gives advice for simplifying designs, fittings and equipment.

House interiors are changing, too. For centuries the Japanese have lived in homes in which the room partitions are movable screens. The idea of making it possible to open up all the main rooms in one storey into one large room has long attracted Western architects. Now the home from the East is appearing in Scandinavia, America and Britain. The principle is followed in small new "open-plan" houses being built at Crawley New Town, Sussex. Folding doors replace interior walls to give extra space, light and scope for imaginative furnishing.

At Marcellise, near Verona, an Italian engineer has built a house with upper storeys that can be turned to catch the sun. The lower section stands firm, but in its centre is a cylindrical column which carries a lift shaft and serves as an axis for the upper section. The base of the upper section rests on motor-driven wheels which run on two circular tracks on the roof of the lower section. At the touch of a button, the upper storeys rotate. A complete rotation takes eight hours.

In Britain, a Hereford engineer, Albert Farr, rivals this with a house that can be turned at the flick of a switch to get the sun where the housewife wants it. Made of timber or reinforced concrete, it will revolve on a circle of steel rollers driven by an electric motor. If it comes on the market the price may be about £4,000.

TRAVEL

MODERN man devotes seven years of his life to travelling about a steadily shrinking world. The high-speed airliner is bringing the ends of the earth ever nearer in terms of time. Measured by minutes, Paris is now no farther from London than Brighton was in Victorian days; Australia is closer than eighteenth-century Birmingham.

In less than thirty years the world traveller has accelerated from a 500-miles-per-day steamship to the 500-miles-per-hour jetplane. Aircraft of the 1920s had to fly round mountains, and night flying was possible only if farmers along the route could be persuaded to light beacons. Even in 1939, civil airlines could not cross the Atlantic. On the first round-the-world flight (in 1924) two U.S. Army planes took 175 days to complete the journey from Seattle to Seattle. Now, a nine-month-old baby has flown round the world in ten days.

One new aspect of air travel is reminiscent of the days of the sailing ship. Planes now navigate so as to take advantage of the so-called jet streams—high-altitude wind currents of up to 300 m.p.h. in strength. But wind is not always the airman's ally. On the transatlantic routes, prevailing winds from the west cause a plane to use up the fuel for 5,750 miles in making the 3,250-mile flight from London to New York.

Fuel is nearly half the total weight of a jetliner taking off on a long-range journey. This weight means thicker and longer runways, keeping modern airfields at a distance from the heart of the cities they serve. But designers are improving the "lift" of heavily loaded airliners. The new Bristol Britannia turbo-prop, first British civil aircraft to reach America non-stop, has a reduced take-off and landing run.

In the coming battle for supremacy over the Atlantic, the Britannia, followed by the Comet IV, will challenge the four-engined Boeing 707, the first of America's jetliners. Russia has a 500 m.p.h. jet, the twin-engined Tupolev 104, already in service. Although slower than the Boeing 707, it is rated three years ahead of Western airliners in design and performance. A supersonic jetliner for B.O.A.C. is in the planning stage.

But the immediate need is for economy. Introducing a commercial plane of new design costs as much as a prewar ocean liner. Aircraft will probably increase in range and efficiency rather than speed and size over the next decade. Even so, men have flown to New York and back in a day, and reached Australia in less than twenty-four hours.

Air travel is also helping to enlarge the very world it has shrunk. With two helicopters, five scientists made maps to open up 57,000 square miles of barren North Canada in fourteen weeks, instead of the twenty-five years it would have taken on land. Australia's interior prospers through the air-beef scheme which flies slaughtered cattle straight to market. The African labourer goes by air to work on a jungle-clearing project.

The spectacular advances of aircraft are being matched by the world's shipping lines. The £19 million American atomic-powered submarine, Nautilus, can circle the world without refuelling. America is building another seven A-submarines, and Britain's atomic experts claim to be "in sight" of an underwater freighter able to operate at high speeds on nuclear power.

An atomic submarine liner able to cross the Atlantic in a day will be developed within twenty years, travelling at 150 m.p.h. in all weathers and having the size to provide traditional ocean comfort. A fleet of atomic surface ships will be in service by 1965. The U.S. Government is already going ahead with the construction of a nuclear passenger-cargo ship, able to carry 100 people and 12,000 tons of freight at a speed of twenty-one knots.

Railways still handle the bulk of land travel. America is preparing to build 350 atomic locomotives, costing £350,000 each, to pull long-distance trains complete with club cars, restaurants, radio telephones and floodlights to illuminate the countryside at night on tourist routes.

Eventually, atomic power will be harnessed to supply the electricity for Britain's £1,200 million railway

HOW SCIENC
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In laboratories and research
tomorrow are shaping our fu

A revolution in motor design—the Rover gas turbine car with a plastic body reinforced with glass. The engine does away with the need for a cooling system, clutch and gearbox, and runs on paraffin. The body is stronger and lighter than steel, does not rust, and can be mended without expensive tools

British air authorities are still perfecting a twin-engine helicopter that will opera
engine fails. The new Bristol design, now being tested by British European Airv
towns and cities have already planned helicopter landing sites in the hope th
common in the near future. One possible snag is the law against low flying,

The house which follows the sun. At Marcellise, near Verona, an Italian engineer has built a circular house with rotating upper storeys. The top two floors are mounted on wheels and tracks (below) and are driven by two small motors at the touch of a button. One rotation takes eight hours

Ultra-sonic drills are being used to pierce brittle materials such as tungsten and quartz. They can cut square and star-shaped holes, and work by vibrating up and down at speeds faster than sound, chipping away the material. They may one day be used for painless dentistry

Australia's John Landy holds the world's mile record with a time of 3 mins. 58 secs. But he has been twice beaten in under 4 mins., by Roger Bannister and Jim Bailey. New records spring from training methods evolved by doctors

CE IS CHANGING
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Soldering hundreds of wires is no longer necessary in radio factories. Even the most complicated circuits can now be printed in copper on an insulated baseboard. All the production workers have to do is to attach the components in the right place. Bulky radio valves have been replaced by tiny transistors in such assemblies

Electronic brains can add or subtract 20,000 numbers a second—or beat human beings at the game of noughts and crosses. Scientists are designing models that will translate books from one language into another, book theatre and train seats, or keep a factory stocked up

Soil is unnecessary to a plant—except to hold its roots—so scientists have managed to dispense with soil. Plants sown in gravel or vermiculite and fed with chemicals grow about one-third faster. In India an acre of potatoes gave eight times the normal crop

As man travels faster he meets new problems. Launched from a "mother" aircraft, the Bell X-2 rocket plane travelled at 2,500 m.p.h. to study the effects of heat at speed. Ordinary glass and metals break down at high velocity, so the X-2 was built of highly polished stainless steel at a cost of more than £1 million

modernization scheme. The gas turbine locomotive has made its appearance. In France, trains have reached a speed of 200 m.p.h.

But rail travel experiences fierce competition throughout Europe and America from the long-distance motor coach—often complete with its own kitchen, cocktail bar and toilet. Nine million passengers a year pass through London's principal coach station. A high proportion of this traffic is to and from the Continent. Using the cross-Channel boat ferry, coach travellers can journey from Aberdeen to Athens and back in the same vehicle.

The expansion of motoring since the war has been phenomenal. The world's motorists are already three times more numerous than in 1939. Twenty thousand new cars a month join the six million already on Britain's roads. Car design is leaping. The two-pedal device, which does away with the clutch foot control, and automatic transmission, which abolishes the gear lever, are now being introduced to make driving as simple and sleek as the modern car's looks. Also well on the way is the gas turbine car, with a plastic body, no gear box—and more power.

But Britain's biggest road-users are still the pedal cyclists. There are twelve million of them—only Holland and Denmark have a higher proportion. Motor cyclists have more than trebled since before the war to reach a total of one-and-a-half million. About half are owners of two-stroke machines, the tiny runabouts which have gained popularity in very recent years.

The most spectacular progress in this field has been made by the motor-scooter, which is rapidly heading for a total of 100,000 in this country alone. Three million of them have been sold in Italy, the country of their origin. America is experiencing the scooter craze, too, and scooters are pulling rickshaws in China. Also enjoying a boom are the miniature cars produced by German firms and several British three-wheeler manufacturers.

WEATHER: *Silver iodide smoke rises cloudwards and makes rain*

POWER: *Man finds new fuels, such as butane gas, which comes from oil*

PLASTICS: *Car bodies in plastic may one day replace sheet metal*

WEATHER

TEN years ago the prospects of altering the climate seemed poor, for even the milder forces of nature are enormous. Energy released in a light shower over a few square miles is comparable with that of one of the early atomic bombs. A storm releases energy many times greater and it seemed beyond the power of man to tame it.

But slowly the mysteries of the climate are being mastered. Already, in favourable conditions, rainfall can be increased to order. Most of the rain-making work has been done in the United States and Australia, where clouds being carried long distances by the wind can sometimes be made to deposit moisture in a particular place.

Invisible silver iodide smoke is sent up from burners on the ground, carrying billions of tiny crystals. The top of a cloud is always cold and there the silver iodide crystals combine with minute drops of water to freeze into ice crystals large enough to drop out through the cloud, turning into rain as they fall towards the ground. Another method is to drop silver iodide or pellets of solid carbon dioxide from aircraft into the clouds: the effect is the same. This is more costly, but an aeroplane can follow clouds drifting towards an area where rain is needed.

Another method of rain-making gave good results during experiments in East Africa last April. Thirty-seven two-inch rockets carrying particles of sea salt were fired to a height of about three thousand feet, a mile and a half from the catchment area of the Kazima dam reservoir in Tanganyika. Rainfall in the catchment area during the month was more than an inch greater than that at neighbouring stations.

The United States spent 50 million dollars on weather control last year. Rainmaking was carried out over 200 million acres (compared with 30 million acres under irrigation). Though the effect of the operations was often too small to be detected, rainfall increases of up to seventeen per cent were produced in some areas.

This condition is only one of the several mysteries which hurricanes pose for meteorologists, but when more is known of the characteristics of hurricanes, rainmaking techniques may be used to moderate them.

In the future it may be possible to control the climate on a much larger scale. If, for instance, the Arctic ice could be covered with a thin layer of black material, it would absorb radiation from the sun which it would otherwise reflect, and would melt more rapidly in the spring. The climate of Siberia, Alaska, Canada and Northern Europe would be improved and agriculture might become possible in vast areas now almost uninhabitable.

The difficulties of such a scheme are of course enormous. The area which would have to be blackened every spring is larger than the U.S.A. Moreover it would be necessary to ensure, somehow, that while the summers were made warmer in America, Europe and Asia, they were not made warmer in Greenland: for the melting of that enormous mass of ice would gradually raise the level of the oceans until great areas of land were submerged.

Meteorologists have a theory that warmth and cold in the Arctic come in cycles of about one thousand eight hundred years, and even without man's help, the Arctic has been warming up gradually over the last fifty years.

The Arctic seas are warming too. Eskimos of Greenland have had to abandon seal hunting because the seals have moved farther north. As a result the average temperature in Britain has gone up by just over one degree Fahrenheit during the last twenty-five years. Spring has generally come earlier and winter later. If this natural increase continues, new farming schemes, probably dealing with different crops, may be needed.

POWER

NUCLEAR energy, the outstanding scientific advance of the twentieth century, has given mankind the promise of a twenty-first century of unlimited cheap power for all. Initially, it will be more expensive than coal-produced electricity. But with thirty nations working on schemes to develop atomic power, its ultimate benefit is certain: a progressive rise in energy supplies to ease today's dependence on coal and oil.

Of all Western countries, Britain most needs atomic power. Fifteen per cent of her energy sources were imported last year. In the most ambitious nuclear energy programme in the world, at least 15,000 megawatts of electricity, out of 55,000 megawatts needed, will be produced by Britain's atomic power stations in 1975.

Calder Hall and its sister station Chapel Cross, which opens on the Scottish coast near Annan next year, will be the largest in the world, feeding 150 megawatts into the National Grid. This is a great achievement. Yet these stations are regarded as no more than experimental. The reactors they use are "gas-cooled," the only economic type so far developed. Gas is heated as it circulates round a core of graphite inside which atoms of uranium are split to create tremendous heat. The hot gas goes to a heat exchanger. Here it boils water to create steam for the turbines which generate electricity.

That such a reactor should be operating at all is one of the wonders of this age. But it is among the most elementary of about a dozen types which have so far been built in Britain.

One of the most advanced, though not yet completed, is the experimental "fast breeder" reactor at Dounreay, in Scotland. Inside a box no larger than an office desk, plutonium and uranium 235 will be burned. Round them will be a blanket of metal—uranium or thorium—which is transformed into plutonium and uranium as the fission takes place.

In this way, it is expected that more fuel will be created than is burned. Instead of the gas in the Calder Hall type of reactor, a liquid metal such as sodium will draw off the heat. One of the major problems to be solved before such a reactor can be used economically is to find metals which will not corrode and will withstand the heat.

Beyond all this lies the dream of the nuclear scientist: to control the explosion of the H-bomb (in which two atoms of hydrogen are fused) and harness the energy it creates.

But for years to come, coal will remain Britain's most important source of energy, and in the coalfields some staggering changes are being made. Nearly £1,000 million is being spent to raise production from the present 220 million tons a year to 240 million tons by 1965.

Since the war, nearly £200 million has been spent to raise Britain's oil refining capacity from two-and-a-half million tons in 1947 to 30 million tons.

The giant new refineries are miracles of modern engineering. Electronics have aided the development of continuous, more exactly controlled, processes. The use of catalytic crackers —involving chemicals which make certain refining processes possible at lower temperatures and under less pressure— has produced petrol with higher octane ratings than have ever been achieved.

Housewives may soon be cooking the Sunday joint with gas imported from the Middle East. The discovery which makes this possible is that methane, the "explosion" gas of coal mines, can be liquefied under pressure. So far only minor deposits have been found in Britain, although the Gas Council is spending £1 million in a search for more. But by liquefying supplies from the oil wells, it may shortly be economic to build special tankers so that the methane can be shipped and fed into British pipe-lines.

Each year enough water flows downhill, all over the world, to equal the energy used from coal and oil during the same period. Year by year a little is added to the ten per cent which is usefully harnessed. The world's largest man-made lake, in Southern Rhodesia's Kariba Gorge, will start to produce electricity in 1960. It will be twenty miles wide, and the water level will be raised along 230 miles of the Zambesi River. The cost will be £113 million, and the electricity output 1,200 megawatts.

To the world's need for power, there is no foreseeable limit. The demand goes up by rather more than two per cent a year. It sounds a little. But it means that by the end of the century the energy needed will have more than doubled. Nations and peoples prosper with power and languish without it. To the wonders which have already been achieved, man's inventive genius will have to add more. We shall need more sources of power (and more efficient ways of using it) to see us through until the spate of nuclear energy relieves the strain.

PLASTICS

OF all synthetic materials, plastics have made the most astounding advance. Fifty years ago there were fifteen factories in Britain making plastics; today there are more than five hundred. Output was 30,000 tons in 1938, 155,000 tons in 1950, and rose to a record 330,000 tons last year. By 1960 it will probably reach 700,000 tons.

Almost unnoticed, plastics are penetrating into every phase of life. They have brought brightness and colour into the home and often they are cheaper than traditional materials. Materials which would be unknown by their strange-sounding names are now accepted as a matter of course. Phenol formaldehyde makes TV cabinets and in another form covers table tops and shelves; floor coverings and curtains are produced from polyvinyl chloride; polythene makes scores of household articles: buckets, jugs, ice-cube trays; more and more cups and saucers are made from melamine formaldehyde.

Plastics have moved into hospitals. Perspex, nylon and polythene have special uses in surgery. Perspex makes many surgical instruments and the threads used to sew up wounds after an operation are nylon. Polythene is used to make joints and bones for people so badly injured that they have lost the use of their own, or to fill a lung to prevent it from collapsing. And a most remarkable recent use of polythene and Perspex tube is as synthetic heart valves.

Plastics are already used widely in the aircraft industry, particularly where strength combined with light weight is vital. But in supersonic jet planes, the plastics bogy—temperature —sets posers which scientists have still to solve.

Earlier this year an all-plastics house was seen in a French exhibition. The structure was built of prefabricated moulded sections incorporating fittings such as cupboards and shelves as integral parts of the mouldings. But it is unlikely that plastics will replace steel in building bridges or bricks in building houses: they would be dearer and perhaps not do the job so well.

Technically it is now possible—but expensive—to make car bodies with glass fibre laminated plastics. If they become cheaper they may replace sheet

NEXT WEEK · SIR MORTIMER WHEELER INTRODUCES ANOTHER

ENTERTAINMENT: *Colour TV is here now. Only snag is the high cost*

ELECTRONICS: *The new electronic brains have a language of their own*

SPORT: *Scientific coaching has helped champions like Zatopek*

metal in the car industry, making it easier to build special designs.

Just after the war plastic materials were moulded by the hot compression of plastics powders. Now spectacular advances are being made in the manipulation of plastics in sheet, rod and tube form by vacuum action.

ENTERTAINMENT

THE pattern of leisure is changing fast as the world rushes headlong into the television age. The technical progress of TV and the growth of its popularity have both been phenomenal. In 1947, there were less than 15,000 sets in Britain; today, there are six million: a set in two out of five British homes. And the total is rising.

The effects are widespread. London Transport says that television partly accounts for a drop of two and a half per cent last year in the total of passengers carried: people are staying at home instead of seeking outside entertainment. Speedway attendances, which totalled twelve million five years ago, have declined by half, and the number of tracks operating has sunk from thirty-five to fourteen. Even in soccer the season's total of spectators has dropped from a peak of 41 million in 1948 to 30 million now.

New interests are being created. Athletics, previously a minority interest, has been elevated into a national sport by the dramatic impact it makes through television. Boxing is followed in close-up detail by millions of new fans who have never been to a fight in their lives. When the Mithras Temple was discovered, television sparked off a nation-wide interest in archaeology.

Experimental colour broadcasts are now being made by the B.B.C. and ITV. Very little stands in the way of colour television, except costs. Eurovision, the greatest technical advantage which the B.B.C. holds over independent television, will soon become a regular part of programmes in Britain. Next year, thirteen networks will carry programmes across Europe, and four routes to Rome will be in use. Transatlantic television presents bigger problems, but it will probably be operating by 1960.

Brilliant as the progress of television has been, its audience in Britain is still smaller than that of sound radio. There are still eight million homes with radio but without TV—an audience of 25 million. For some purposes, sound will be a better medium for a long time to come (and perhaps for ever). The B.B.C.'s very high frequency transmissions reproduce music more faithfully.

In news reporting, the spoken word can always outstrip the more cumbrous processes of TV. In the field of discussion, it may be a few years before television can match sound radio's feat of assembling speakers in half a dozen different capitals. Sales of radio sets still keep pace with TV. In August this year, British dealers each sold an average of nearly nine television sets, compared with 6.41 sets last August; the comparable figures for radio sets were 11.41, compared with 8.72.

All of this is small comfort to the film industry, facing a sharp decline in cinema audiences. In Britain, 1,182 million paid for admission to cinemas last year, the lowest figure since 1940, and a huge drop from the 1946 peak figure of 1,635 millions. Scores of cinemas are closing.

An elusive target dangles before the film industry: the illusion of reality. In pursuit of it, the shape of the picture shown on the cinema screen has been changed and the anamorphic system (known to the filmgoer as CinemaScope) has been evolved.

Scenes are photographed with a special lens called an anamorph, which squeezes the image in from each side without altering the height. The images are recorded on a normal 35-mm. negative. When the film is shown, another anamorphic lens is used in the projector. This unsqueezes the image, so that it fills a screen which is roughly two and a half times as wide as it is high.

Carrying farther the illusion of reality is stereophonic sound. For years, sound was recorded on a single track and heard through loudspeakers placed behind the screen. Now, most films have four separate sound tracks, three suppiying sound to loudspeakers behind the screen (giving the effect of movement of sound to suit the action) and the fourth producing effects through auditorium loudspeakers.

Two systems have been evolved to improve audience participation: Todd-AO and Cinerama. Neither of them is likely to be seen in ordinary cinemas because of the size of the screen needed. Todd-AO uses a huge curved screen and a wide angle of view, extending to a maximum of 128 degrees. It needs fine definition in the projection print, and this is obtained by using a 65-mm. negative in the camera. Cinerama entails the use of three perfectly synchronized projectors and a very large curved screen of special construction. The image is photographed with a camera using three lenses, set at forty-eight degree angles, each recording on a separate negative. The three positives are projected in synchronization, side-by-side on the screen, producing a total image 146 degrees wide and fifty-five degrees high—not far short of the compass of man's normal vision.

ELECTRONICS

WITHIN a decade, the electronic brain has taken the brake off scientific research. Even ten years ago, it was impossible for the scientist to solve many of his complex mathematical problems; they would have taken so long as to use up the lifetimes of several skilled mathematicians. Now, the speed with which the "brain" can handle them has opened the way to new, dramatic discoveries. Its fabulously fast calculations have resulted in safer aeroplanes, better petrol, speedier production lines—and an unbeatable way of playing noughts and crosses.

Far from replacing human mathematicians, electronic brains have created a new demand for men who can translate complex equations into the six little words which are all the brain can understand: plus, minus, multiply, divide, compare, transfer. In addition, every digit has to be altered into a combination of ones and noughts. For example, a brain cannot recognize the figure 5. Instead, this is represented as 0101, or some similar combination. Fortunately, all mathematics (and most thought processes in the human mind) can be represented in those terms. The miracle of electronics is the speed at which they can be handled.

The best existing electronic brains can add or subtract 20,000 numbers a second, and machines are now being built to work at ten times this speed.

Advanced though they are, these machines are not quick enough for some of the aircraft designer's mathematical problems. There is an enormously complicated theory which equates the three dimensions of an aeroplane to stress, wind resistance, lift, and other factors in flying. To apply this along the length of a new wing for an aircraft, even the most modern British computer—DEUCE at the National Physical Laboratory—would take several weeks, too long to be of practical use. By altering the electrical circuits, scientists hope to create a brain which will solve even these immense equations with the speed the designer needs.

Letters as well as figures can be understood by the brain, but all words have first to be typed into the "electronic alphabet," in which all the letters become combinations of ones and noughts. For instance, A might be 00001, B could be 00010, and so on through to Z, which would be 11010.

One of the most startling developments of this is the "language machine," which recognizes words in one tongue, and translates them to another. Brains have been built which can recognize eight thousand words, compared with two thousand in the vocabulary of an average man. The challenge is to break down grammar into a series of logical actions so that the brains will know how to string the words together to form a sentence.

So far at least one hundred rules of grammar have been formulated. The first, most important six rules were fed into one brain, which was then able to translate from Russian to English the sentence: "We transmit thoughts by means of speech." In five years, the brains may be so good that they will be able to translate the German of Goethe into the English of Wordsworth —if professors of literature can agree on the rules of word selection which governed the minds of both writers.

In America, an electronic brain is already in use for the reservation of aircraft seats. A customer can walk into any booking agent anywhere in the country and ask for a reservation His request is sent by teleprinter to a central brain which keeps a running record of reservations.

Within a few years, the same system may be installed in this country for booking train and theatre seats, with brains able to give immediate answers from their immense stores of facts. A simple adaptation would make such a brain a faultless information centre: in a moment, it could answer public inquiries about railway fares, how late certain trains are running and the platforms at which they will arrive, or how long it takes to journey from one point to another.

One difference between the electronic brain and the automatic machines which preceded it is the feed-back, or the ability to correct itself. In mathematics, it takes the place of common sense in the human mind, recognizing, for instance, that two times two does not equal forty. In the factories, feed-back is the biggest single contribution to the second industrial revolution. By it, a brain can check to within a thousandth of an inch if one drill in a section is boring a hole slightly out of true, and correct the operation. Previously, the machines went on drilling until the fault was discovered at a later stage.

The production-line factory of the future will be an eerie, deserted place. In the office, electronic brains will take over all the ordering of new raw materials. They will sift information on the size of present stocks, the state of the market, the speed of the production line, the amount of material being used in each operation, and be able to give an exact answer, almost to the last ounce, on how much new stock should be purchased each month.

On the production floors of the factory, there will be different brains for each similar set of tasks—all engine valves, for example, though differing slightly, will be handled by one brain.

A master brain will co-ordinate their work, giving information on how many parts of each kind are needed, and making sure they all come together at the right time for assembly. This kind of work is the ideal task for an electronic brain. And, given this system of electronic control, it is comparatively simple to build "mechanical men" which can perform any drilling, casting or assembly work.

SPORT

IN athletics, a new partnership has emerged between the scientist, the coach and the athlete. As it develops, fresh achievements will unfold. Already, it has given a new impetus to record-breaking.

Man's reaction under great physical stress provides the key. Guided by it, doctors can help the sportsmen towards improved training schedules and suitable diets. In many countries, this liaison between doctors and sportsmen is much more highly developed than in Britain. In America and in Scandinavia, research work is intense.

Countries in eastern Europe, following Russia's lead, have gone farther. They encourage doctors to become qualified in "sports medicine" and doctors and trainers work together in preparing their Olympic teams. In large cities, there are Institutes of Sports Medicine, supplemented by smaller sports clinics. Budapest has twenty-two such clinics.

Doctors can offer the athlete the knowledge of how to get the most out of himself. One result has been the training system of interval running, which has the athlete alternately sprinting and jogging a set distance. It produces great resistance to fatigue.

The men who run the four-minute mile have no more physical equipment than their predecessors. But their training has made them fitter. Dr. Roger Bannister, the first of them, has explained how middle distance runners can greatly improve their oxygen intake by training. The intake depends on cardiac output, breathing rate, speed of diffusion in the lung and the rate of oxygen uptake in the muscles. If it were made possible for a runner to breathe a higher percentage of oxygen, more records would be broken.

The catalogue of broken records is staggering. Gundar Haag's world mile record of 4 min. 1.4 sec. had stood for nine years when Bannister became the first man to run a four-minute mile in May, 1954. Yet, by August, this year, nine other athletes had beaten four

SCIENCE CARES FOR THE BODY AND THE MIND

MEDICINE: *After the vaccine for polio, research is now tackling flu*

SURGERY: *A mechanical heart takes over during an operation*

PSYCHIATRY: *The workings of the brain can be recorded by machine*

minutes. In August also, Jesse Owens's record of 10.2 seconds for the 100 metres, which had stood for twenty years, was broken on successive days by coloured American soldiers in Berlin.

And, last year, three Hungarian middle distance runners, Iharos Tabori and Rozsavolgyi, between them broke world records for 1,500 metres, 2,000 metres, 3,000 metres, 5,000 metres, two miles and three miles. Experts now look forward to the day when the hundred yards will be run in nine seconds (present record: 9.3); and a high jump of eight feet will be achieved (present record 7 feet ½ in.).

Geoffrey Dyson, chief national coach for the Amateur Athletics Association, has said that he believes that the present mile record of three minutes fifty-eight seconds can be slashed by four seconds by 1965.

What we are witnessing in athletics is the growth of a new concept of the limits of human endurance.

MEDICINE

TUBERCULOSIS has been conquered, anti-poliomyelitis vaccines are being developed and twenty thousand people are cured of cancer in Britain each year. But man would have to live in the Arctic to escape the common cold. That is one of the ironies of modern medicine. In an age of spectacular advances, the major diseases have attracted the main energy of science. Only now is the same intensive research being devoted to the less dramatic threats to health.

The combination of X-ray films and cinematograph technique at the beginning of the twentieth century opened up an exciting new world. Every active member of the body could be seen in action, and the rhythmic beating of the heart reduced to slow motion without inconveniencing the owner. With cine-film allied to the new and ultra-powerful electronic microscopes, man became a spectator of the inmost mysteries of life. He could watch cells carrying out their work of dividing and renewing themselves.

A great discovery was the detection of hormones, secreted by the ductless glands and passed directly into the bloodstream as the body's chemical messengers. These glands were found to influence growth, temperament and sexual development. Their failure can make a man a dwarf, a giant, or a diabetic. All glandular functions are not yet understood although some hormones have been found to have special duties. Science has made use of hormones to make up glandular deficiencies and has also found other uses for them.

A constant procession of new drugs has vastly expanded medicine's armoury. But the vaccine method, pioneered by Jenner and Pasteur last century, is still man's recognized defence against infectious diseases. Smallpox, typhoid, polio, yellow fever, whooping cough and tuberculosis have all been checked in different degrees by vaccines which build up the body's natural resistance to that form of germ. This is achieved by introducing into the bloodstream a small amount of the disease's own bacteria or virus—weakened or killed as necessary. Chemical substances, known as antibodies, are then produced in the blood, and remain for a variable time in readiness for any large-scale influx of germs.

The cultivation of virus for vaccines is a challenge to the laboratory because they are much smaller than even the microscopic bacteria and develop only in living cells. Yet viruses must be isolated and then grown artificially on a large scale before a vaccine for general use is possible. Some influenza viruses will grow in a fertile hen's egg. But two of the three strains of polio virus die in the same surroundings. It took five years to find the right medium for all three polio viruses—a section of monkey's kidney tissue kept alive in a test-tube by biological means. This was a big step forward, but a polio vaccine was created only when Dr. Jonas E. Salk came along to employ formalin as the means to make the virus safe but effective—killing but not destroying it.

Vaccines may also end the reign of the two biggest threats to industrial efficiency—influenza and the common cold. An influenza vaccine exists but is still being tested. It took a ten-year search to isolate the tiny virus of the common cold. Research centres throughout the world are at present grappling with the even more formidable task of contriving its artificial cultivation.

Now that man has come to grips with the last of his virus enemies, science is redoubling its attack on heart disease and cancer. Until recently, rest was the principal treatment for coronary thrombosis. Now doctors have new drugs which can prevent clotting of the blood, the danger stage of this disease.

Cancer has been with us for centuries. But only in the past thirty years has a cure been possible in certain cases. No longer it is an inevitable death sentence. Present research is aimed at tracing the limiting factor which makes ninety-nine per cent of the human body grow normally, but which is absent in the malignant one per cent where disorderly growth takes place. When science uncovers that secret, cancer will belong to the past.

SURGERY

MODERN surgery has opened up a new age of miracles through gaining entrance to the human heart. The surgeon now gives new life to thousands—through his ability to stop the pendulum of life itself while carrying out repair. On the operating table, man can exist for considerable periods while his heart ceases to beat. Judged by nineteenth century standards, heart patients of today are being brought back from the dead.

First attempts at heart surgery were made in the 1920s, but only as a desperate—and unsuccessful—operation on a doomed patient. Now many surgeons have an individual record of more than a hundred operations, achieving full success in more than seventy-five per cent of what were once considered hopeless cases.

Immense progress has been made over the past decade, beginning with the postwar drive against the "blue baby" condition. American, Scandinavian and British surgeons all developed methods of operating to clear obstructions in the heart and the surrounding circulatory system. Similar techniques were then applied to adults, particularly in curing mitral stenosis, one of the late effects of rheumatic fever—a more serious condition and twenty times as prevalent as blue baby cases. One or more of the valves in the heart, controlling the entry and outlet of blood, become deformed and partially blocked, often with fatal results. Surgeons have learned how to probe inside the heart and repair these damaged valves. As a result bedridden cardiac cripples are able to lead a perfectly normal life after this operation.

The tremendous strides in surgery have been achieved only through the co-operation of physicians and anaesthetists. The surgeon has come a long way from the days of ether or chloroform used as a single, comprehensive anaesthetic.

Patients now undergo a triple preparation for an operation. A quick-acting barbiturate injection induces sleep, a light level of nitrous oxide gas excludes pain, and curare (the arrow poison employed by blowpipe natives of South America) ensures muscular relaxation.

Another dramatic part is being played in the operating theatre by various cooling processes. Scientists have discovered that the body requires less oxygen at low temperatures, enabling the use of even lighter anaesthetics. Various methods are adopted to produce this so-called artificial hibernation. After drugs have been applied to prevent shivering, patients are made cold by physical means such as ice packs, or by the "lytic cocktail."

This is a mixture of several drugs designed to paralyse that part of the brain regulating body temperature. The cocktail is used mostly for adults who are more difficult to cool. Children have had their temperature reduced to eighty degrees Fahrenheit, and at that level the blood supply to the body can be cut off for more than eight minutes without ill-effects. In most cases, fatal damage is caused to the brain and tissues after only three minutes of stopping the normal heartbeat. The extra time given to surgeons has allowed the performance of previously impossible operations on the heart itself.

Lessons learned in selection of grafting skin led the way to reshaping operations being accomplished with hardly any scars to show afterwards. Now the principle of deep-freeze storage is being applied experimentally to human red blood cells, arteries, and the transparent front window of the eye used in corneal grafting.

Already the whole uterus of a guinea pig has remained alive and capable of contraction after deep-freezing. Its muscle is not all that different from heart muscle. So plastic surgeons may soon have a refrigerator store of whole organs, constantly available for transplanting into the body.

PSYCHIATRY

PSYCHIATRY has put the pursuit of happiness on to a scientific footing. Man's attitude to life is now recognized to be as important to good health as his physical condition. Doctors have long known that miserable patients recover slowly and often relapse. And the nervous strain of modern life has some responsibility for stomach ulcers, heart disease, and increased blood pressure. A worried man is more likely to trip and break his leg.

Psychiatry opens up a tremendous new range of research. Its approach has to be wider than the very foundations of medicine or even pure science. The psychiatrist is concerned not merely with his patient's condition but with his background, heredity and life history. Modern probes of the mind involve genetics, biochemistry, endocrinology, anatomy, physiology, sociology, anthropology, history and philosophy.

Now nearly half the hospital beds in Britain are given over to treatment of the emotionally disturbed. Recent advances are miraculous, restoring to reality thousands who were once thought to be incurables. Success is being achieved by psychology blended with medicine and surgery, since some mental conditions have physical causes while others have physical consequences.

Dramatic results have been achieved by reshaping the brain of the hopelessly insane. Prefrontal leucotomy, in which a portion of the front of the brain is cut across, has become the most common neuro-surgical operation. Tension and emotional distress are banished when the connecting nerve fibres are severed. But the surgeon's knife also brings about irreparable changes in personality. He may become complacent and display a distorted sense of values. Usually he is better after the operation—but he may be worse.

As the specific jobs carried out by each part of the brain have become known, surgeons have been able to increase their range, and more elaborate brain operations are being developed.

At present, brain surgery is usually only attempted when all other physical methods, including psycho-analysis, have failed. But as the operations become more precise, the brain itself will be the scene of even more spectacular victories over mental illness.

But psychiatry's greatest triumphs lie ahead in the large-scale preventions of nervous disorders—at present producing 70,000 new mental cases in Britain each year. The new understanding of the relationship between emotional and physical disturbances is having two promising results—patients are more ready to let the doctor call in a psychiatrist, and there is something of the psychiatrist in the desk-side manner of every general practitioner.

Man's most insidious enemy has been located within his own mind, and modern science has launched a full-scale attack. On a personal level, psychiatry has adopted the goal of the politician—a world without fear.

JOHN BULL is indebted to experts in many fields for advice and guidance in preparing this Supplement. Among them are: Robin Addie, M.A., Chairman of the Radio Show Technical Committee of the Radio Industry Council; John C. Gray, M.A., author of The Problem Of World Poverty; *Dr. H. Manley, Ph.D., B.Sc., of the United Kingdom Atomic Energy Authority; R. H. Tizard, B.A., M.I.E.E., Research Fellow in Electronics at the London School of Economics; Lance Wright, A.R.I.B.A., Technical Editor,* The Architects' Journal.

, Dad!" said the apparition cheerfully. "I wanted to give you a surprise." The voice came from an empty suit invisibly supported by a pair of stockings

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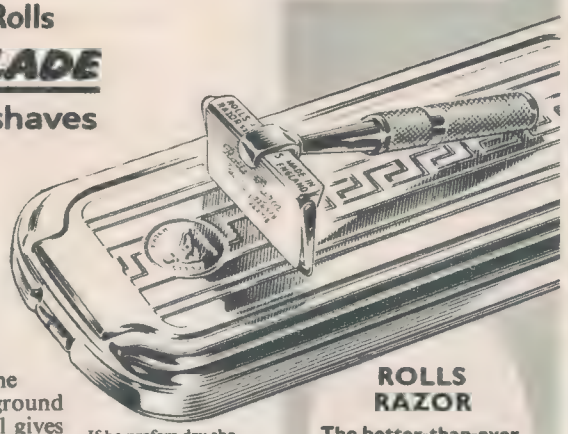

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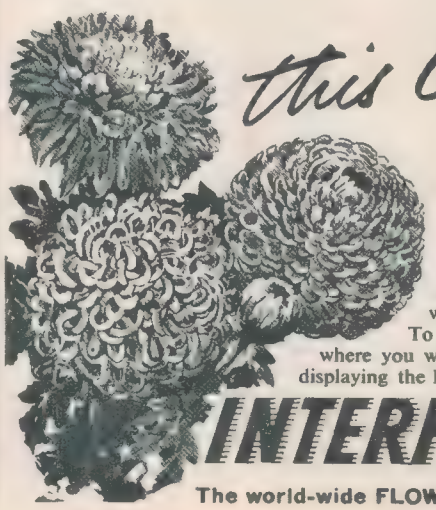

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Shipmate ashore

by ROBERT HOLLES

When ships come into port, William Swann stands by. He will cope with everything—even snakes and stowaways

On the Danish freighter Nordvest, William Swann talks with the skipper. He knows that rapid discharge of cargo is essential: delay can cost more than £500 a day

Swann chats with two Danish seamen. "Language is rarely a difficulty in dealing with foreign crews," he says. "English is the Esperanto of the shipping world"

JOHN BULL PHOTOGRAPHS BY LAWRENCE HANLEY

ON the quay at West India dock a few years ago, William Swann, a ship's agent, awaited the arrival of a large Canadian-built freighter with a cargo of timber from the Gold Coast. All the lightermen in the dock were on strike. As the ship berthed, Swann glanced across the deserted waterfront towards the desolate grey shapes of idle shipping moored alongside.

A quick turn-round is essential for a freighter. Delays mean extra dock charges, more crew pay, and time lost on the next voyage. A day wasted in port can mean a loss of more than £500 on a single medium-sized ship.

With no lighters available for unloading, Swann hurried to the dockmaster's office and obtained permission for the timber, a mixture of obeche and abura, to be floated down to the wood wharf, half a mile away.

A team of rafters stood by to guide the logs to their destination as the first consignment was lowered into the water. But to Swann's consternation, the heavier abura logs slowly began to sink. He immediately gave instructions for the rafters to lash the two types of logs together with wire, alternately, so that the more buoyant obeches would keep the aburas afloat. In this fashion the cargo was successfully discharged.

"At one time the whole dock was a heaving mass of logs," says Swann, "more than a thousand of them. When they arrived at the wood wharf it must have taken weeks to sort them out. But we managed to get the ship away on time."

As chief of the inward freight department of E. H. Mundy's, Swann supervises the affairs of cargo ships of various nationalities passing through the Port of London. In 1955 his staff handled ninety-two ships comprising 630,000 tons dead weight on behalf of the owners, including ships of the Palm Line, Silver Line, Schulte's, Reckmann's, Hamburg-Amerika, and North German Lloyd.

Most of the big British shipping concerns employ staff to handle their own shipping in port. Many of the smaller cargo lines, and nearly all foreign shipowners, find it more convenient to hire the services of local shipping agents when their vessels dock in Britain. Agents' fees are based upon the tonnage of cargo handled.

Swann not only arranges for the berthing, unloading, bunkering, and re-victualling of the ships; he also recruits their crews, acts as a liaison officer between the owners and the various port authorities which control shipping in the London docks, attends to the ships' domestic needs, and copes with any sudden emergencies.

This has involved supplying replacements for sick members of foreign crews at a few hours' notice, arranging for a vital engine spare required by a German freighter to be flown from Glasgow to London Airport, and, on one even more hectic occasion, protecting a ship's master from an angry crew besieging his cabin and demanding to be paid.

When Swann saw smoke rising from the hold of a ship which was discharging her cargo of palm kernels, he was not unduly worried. Exposed to friction, the oil in these kernels sets up a slow combustion which rarely proves serious. As a routine precaution, however, he went to the docks office to telephone the information to the owners.

By the time Swann returned to the quay, a Ministry of Transport surveyor had ordered the ship to be beached, and water was being pumped aboard. "I got across to the ship as quickly as possible. The only way to get aboard was to climb up a cargo net which was hanging over the side. Unfortunately my feet got entangled in the net, and I hung there upside down for some time before I was noticed and somebody pulled me aboard. Although the ship didn't

Continued on page 46

Franz von Werra arrives in New York—with his frost-bitten ears bandaged

THE ONE THAT GOT AWAY (7)

Von Werra outwits the F.B.I.

by KENDAL BURT
and JAMES LEASOR

He was a threat to Britain, a problem to America . . . he must be watched. But who would suspect this dirty little Mexican peasant? Even a German was fooled

An escaper must have luck. Farther downstream the ice-free channel followed the contour of a toe of land jutting out in the river. The boat, steadied now and facing upstream, gradually slid across the channel and eventually bumped and scraped along the jagged ice bordering one side of the tiny peninsula.

Inside the boat was Oberleutnant Franz von Werra, a Luftwaffe fighter pilot. Shot down over England, he was being sent to a prisoner-of-war camp in Canada when he jumped out of a train window.

He had reached the St. Lawrence River and stolen a boat, hoping to cross to the United States' side. The boat was oarless, rudderless. The man in it did not know where it was taking him. It had simply floated with the current.

When it bumped and grated against the margin of ice by the peninsula he needed no time to make up his mind. The boat grated: he leaped. He fell on the ice. The boat recoiled, then moved slowly back to the ice. The last he heard of it, it was still bumping and scraping slowly downstream.

He got to his feet, staggered across the ice and scrambled up the bank.

It seemed to him that he had been in the boat for hours and had drifted miles downstream. And he knew from the map that farther downstream the U.S.A. border was some way south of the St. Lawrence—that *both* banks were in Canada.

He saw a huge building some distance away on his left. The windows were ablaze with light. Then he had a shock. He noticed that every window was barred.

Had he landed in the grounds of a penitentiary?

He moved away to the right as quickly as he could. He was reassured when he saw a car pass by ahead of him. There must be a road. Then he saw two cars parked farther down on the right. He got on to the road and walked towards them. The leading car was unoccupied. The bonnet of the other was raised and a man was tinkering with the engine. A young woman in a snow-sprinkled fur coat stood by him and there was another girl sitting in the car. On the licence plate of each car were the words: "New York."

He dared not believe it. He had seen cars in Canada with New York licence plates.

The man went to the car ahead, presumably to get some tools. He looked hard at von Werra but did not speak.

Von Werra moved across the front of the car. The headlamps shone on his overcoat, which was stiff with ice. His legs cast long shadows on the snow. The woman stared at him and then glanced in the direction of the river from which he had come.

She laughed and asked lightly: "What's the matter with you?"

"Excuse me. Is this America?"

"Are you sick or something?"

"No, truly. What is that house over there? What place is this?"

The woman was struck by his accent and by the tiredness of his voice. She replied straightforwardly: "That is a hospital. I am a nurse there. You are in Ogdensburg."

"*Ogdensburg?* But——" Von Werra could not believe it.

Instead of having drifted miles downstream, he had travelled barely half a mile.

But what did it matter? He was in the United States.

He smiled wearily. "I am an officer of the German Air Force," he said. "I escaped across the river from Canada. I am"—he corrected himself—"I *was* a prisoner of war."

The nurse gave him a cigarette. He had difficulty in holding it in his frost-bitten fingers. The nurse explained that she had been setting out "uptown" when her car had stalled. She had telephoned a garage and the proprietor himself, Al Crites, had driven out to see what was wrong. There were, she said, many Canadians in Ogdensburg, including frontier officials.

It was not until some time later that von Werra realized that the nurse had been trying to tell him that Al Crites, the man who was trying to start the car, was himself a Canadian.

Crites gave von Werra a lift into the city. The German insisted on getting out at the traffic lights on the corner of Ford Street and Patterson Avenue. Although he did not then know that Crites was a Canadian, he wanted to make sure that he surrendered to an American policeman.

A few minutes later Patrolman James Delduchetto, of the Ogdensburg police, having been tipped off by Crites, arrested Oberleutnant Franz von Werra as a tramp, loitering in the precincts of the Presbyterian church.

"Come on, you!" said Patrolman Delduchetto. "Headquarters!"

Von Werra smiled. "Okay!" he said. "Sure!"

At police headquarters, von Werra was charged with vagrancy, but with the aid of his uniform jacket, complete with Iron Cross and various censored letters addressed to him in British internment camps, he was able to convince the police that he was an escaped German prisoner of war.

The vagrancy charge was dropped and he was turned over to Immigration Inspector David K. J. Benjamin.

The immigration authorities held a preliminary inquiry the same night, and von Werra was arraigned on a charge of illegal entry into the United States. The hearing was adjourned to the next day to enable him to get in touch with the German Consul in New York, and to obtain legal representation. Later he was handed back to the police for safe keeping.

Since diving out of the train early that morning he had passed an eventful and utterly exhausting day. Physically, he was dead-beat. Somehow he managed to keep going on nervous energy. His eyes pricked for want of sleep and he was in a waking dream.

Things had moved fast after his arrest. When he arrived back at police headquarters, photographers and reporters milled round him. He was given food and drink and then he told his story.

And now the other side of von Werra's character took over. He committed one indiscretion after another. He boasted, bragged, exaggerated outrageously and spoke of the British war effort with contempt.

If this performance had been limited to the

Soon after his return to Germany, von Werra was married. The honeymoon was in Italy. Then his wife went with him to Holland where he was in coastal defence

In the grounds of the German Consulate in Mexico City, von Werra wears the straw hat which had been part of his Mexican disguise

night of his arrival, it would be easy to overlook it, but it was continued throughout the next day, after food and a night's sleep, when some of the famous feature writers arrived from New York to interview him.

The next morning, Saturday, January 25, the story of his escape, and many pictures of him, were front-page news throughout America. The local paper, the *Ogdensburg Journal*, devoted several pages of news and pictures to his "saga."

On January 27 *The Times* published a report from its New York correspondent. It contained the following:

> He said he had flown over England so many times that he was unable to count the flights. He had escaped this time, he said, so as to take part in a "knock-out blow" against England in March. The Germans had been experimenting with the transport of troops in gliders towed by bombers, each glider carrying forty-five to fifty men. He asserted that United States help was "too late" to "save" England, and predicted a British capitulation in September. Praising British morale, he declared that German bombers had done "terrific" damage to London.

Von Werra told reporters the sort of things they wanted to hear from an escaped German "baron"—as he liked to call himself. He caught the imagination of the American people. Nation-wide publicity was given to his case by the press, newsreels and radio, with the result that it became an international issue.

America was then in a state of "armed neutrality" and the sympathies of its people were divided. A large section of the public, made up mainly, of course, of Americans of German or Italian origin, was anti-British. The Bund and other German-American societies and, on a higher level, the America First Committee, exercised a powerful influence on American public opinion. Nazi sympathisers in America flooded prison camps in Canada with gift parcels. . . .

Von Werra got in touch by telephone from Ogdensburg with the German Consul in New York. The consul instructed an Ogdensburg lawyer, James Davies, to take up the case immediately. The following day von Werra waived examination on a charge of "entering the United States without reporting to an immigration officer" and elected to appear before a Federal Grand Jury at Albany, N.Y., several days later. He was released from custody under a bond of five thousand dollars (worth, at that time, about £1,110) paid by the German Consul in New York.

The consul was anxious to get the fugitive away from Ogdensburg and the Canadian border as quickly as possible. One of the reasons for the haste soon became manifest: a few hours after von Werra left Ogdensburg the Canadian authorities made the first move to secure his return. The Ontario police delivered a summons to the Ogdensburg police to be served on von Werra, charging him with plunder and theft of a rowing boat valued at thirty-five dollars—just over £7.

If the summons had been served on him in Ogdensburg, he would not have been permitted to leave until the matter had been settled. The case could not be tried by a United States court, and the charge might well have led to von Werra's extradition to Canada. The Canadians later applied for an extradition order on the basis of the theft charge—but by that time von Werra was in hiding in New York, and his case had been lifted from the thirty-five dollar level into the arena of international politics.

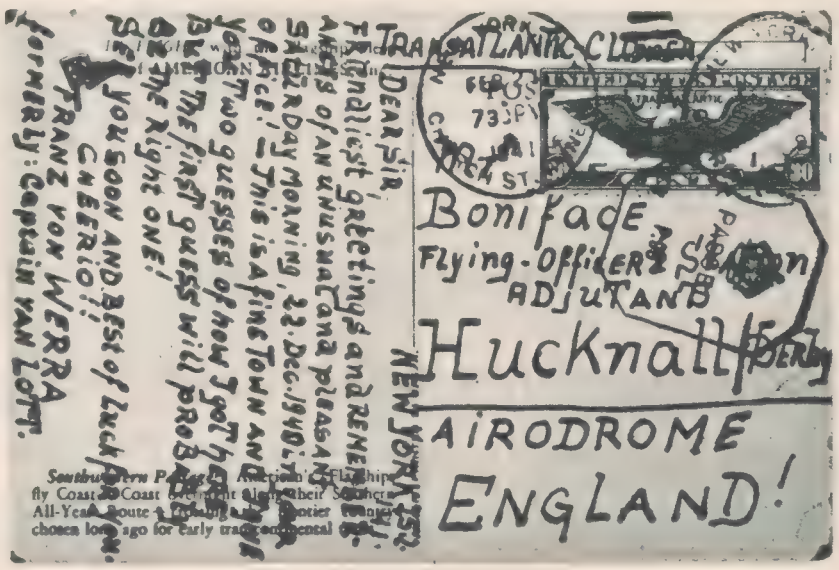
The German diplomatic representatives must have been horror-stricken by the indiscretions committed by von Werra in his rapturous interviews with newspapermen in Ogdensburg. It was not only what he said—his wild boasts, his reckless revelation of war secrets—but the way that he said it: the day after his escape newspapers described him as "garrulous," "cocky" and "boastful."

These were hardly the kind of epithet German diplomatists liked to see applied to a dashing young hero of Hitler's Third Reich.

From the time he arrived in New York, von Werra was kept out of the way of newspapermen and forbidden to speak to them. He stayed at the Westchester home of Bernhard Lippert, one of the German vice-consuls.

Whenever he went out he was accompanied by consular officials or lawyers, and later by a professional bodyguard. "Werra is a soldier," they said, "and as such he cannot talk to the press."

He spoke to reporters only once more—at La Guardia Airfield, on his return from one of the frequent and mysterious trips he made by air to Washington. He was reported next day as



Von Werra's postcard from America to an R.A.F. officer. It recalls the German's attempt to steal a plane at Hucknall airfield after an escape in Britain

Von Werra on the Russian front . . .where he fought for a few weeks after his escape. He was credited with eight more victories

being "cheerful but reticent." Asked what he thought of the U.S.A., he replied: "It's very nice here." He posed politely for photographers, but declared that newspapers in America were "a funny business." He referred reporters to the German consulate for further information about himself.

But although he spoke no more to the American press, the American press spoke a great deal about him.

At first its tone was not unfriendly, and tribute was paid to his courage and resourcefulness. But if the papers gratefully published his tales of derring-do, most of them commented caustically on his extravagances.

His reception was in the nature of a *succès de scandale*.

There was much speculation about what would happen to von Werra and it was reported that officials in Washington were looking up precedents in international law.

On January 25, the American Department of Justice stated: "Baron von Werra . . . will probably be deported to Germany. War conditions, however, make it virtually impossible to execute deportation orders, and von Werra may be released under bond until his transportation to Germany can be arranged. International law prohibits the United States from returning prisoners to the country from which they have escaped."

In the end, the Department of Justice in Washington cancelled von Werra's appearance before a Federal Grand Jury. His bail was increased to 15,000 dollars, paid by the German Consul, who had to keep him in "protective custody" pending a final decision in his case by the Attorney-General.

It was in New York that von Werra first learned that Hitler had awarded him the Knight's Cross of the Iron Cross in recognition of an exploit "unique in the annals of fighter aviation in this war"—his imaginary attack on a British airfield. Thus, the prophecy of the R.A.F. interrogation officer—who had questioned von Werra soon after he had been shot down—had in part come true: but the party to celebrate the award was held in New York, not in a British prisoner-of-war camp, as the officer had forecast. He had, however, been right in prophesying that Hitler would award von Werra the Knight's Cross for the phantom attack—which the R.A.F. knew to be imaginary.

In Germany the publicity given to von Werra's escape quickly elevated him to a national figure. Reports running to thousands of words, together with pictures, appeared in the daily press, while two-page features, accompanied by maps, photographs and drawings, illuminated the magazines.

The Propaganda Ministry not unnaturally suppressed many of von Werra's boasts and indiscretions, and did not scruple to alter details to suit its own purpose. German readers would not, for instance, have heard of Hucknall—the British airfield where von Werra had nearly stolen a plane to escape to France—so it was stated that von Werra almost got away from the better-known Croydon Aerodrome.

Behind the scenes in Washington a lively tussle was going on for possession of von Werra's "body," with the Germans pulling one way, the Canadians and the British the other, and the Americans acting as referee.

Von Werra's escape was a serious threat to British security. The British were not only concerned at the possible return to Germany and to operations of an experienced pilot; they were concerned at the possible return of one who had been subjected to their interrogation methods, and who had been sufficiently astute to hold out against them. They, therefore, used every possible means to prevent his getting back.

They were not to know that the harm had already been done. . . .

As soon as von Werra reached New York the German Military Attaché instructed him to write a preliminary report on his experiences as a prisoner of war, with special reference to procedure at British air interrogation centres. This report was immediately communicated in code to Luftwaffe Headquarters in Berlin. The Intelligence and Operations Branches were so impressed by it that extracts and instructions aimed at tightening up aircrew security were teletyped to all operational units of the Luftwaffe. The effect of this measure was soon felt by British Air Intelligence. German aircrew captured after von Werra's report were extremely "security-minded." They knew what to expect from guards and interrogators.

WHILE a decision on his case was pending, von Werra made frequent air trips from New York to Washington, ostensibly to confer with the German Ambassador and legal experts, but really to write reports and answers in response to questions from Berlin.

The F.B.I. kept a close watch on these comings and goings and on the people he met. This was borne out at later trials of various German spies in America, when times and places of their meetings with von Werra were specified. In 1945, the F.B.I. revealed that for many months before America entered the war, people arriving at and leaving the German Embassy in Washington were secretly photographed from windows of houses opposite and from innocent-looking vans parked nearby.

Naturally, one of the first things von Werra had done on his arrival in New York was to cable news of his escape to his foster-mother and to the girl to whom he had become engaged at the outbreak of war. He also cabled the German state publishing house, the *Deutscher Verlag*, offering them the rights of a book dealing with his experiences as an escaper. The offer was accepted by cable the same day.

In the course of his unexpected holiday, he wrote numerous "Wish-you-were-here" picture postcards to old friends and comrades. He did not forget his newer acquaintances—the various R.A.F. and army officers he had met in England. One such postcard was addressed to "Mr. Boniface"—an officer whom von Werra had seen at Hucknall R.A.F. Station—who preserved it as a war souvenir.

The weeks passed. At first von Werra had a wonderful time in New York, visiting theatres and night clubs and attending social functions, though always in the company of consular officials. "Escaped Hun Baron Woman's Pet in U.S." was the heading to a news item in the *Daily Mirror* of March 21, 1941. He was described as "leading a life of luxury in New York as the darling of dozens of doting German-American women." Every morning "masses of expensive flowers" arrived for him and "notes from women who wanted him to be their guest at dinners and parties."

"At night," the report continued, "the Baron eats and drinks at his admirers' expense, repaying them with fantastic stories of his 'bravery' . . . describing dramatically how he 'shot down fourteen British planes' and how he hoped to return to Europe 'to shoot down many more.' When he dined out with his bodyguard," it was said, "you can't see the Baron for skirts."

BEHIND the scenes the tussle for his "body" was intensified. During March there were indications that public and official American opinion was hardening against von Werra. He went out less often and his professional bodyguard was reinforced. The Germans did not rule out the possibility of an attempt to kidnap him.

And they were very worried about the possible consequences of the Canadian warrant.

One sentence in a new statement issued by the Department of Justice was of very special significance. It was that the Department was deliberating whether he should be "deported to Germany, *or to Canada*."

This was the first official intimation that the possibility of handing him back to Canada was being seriously considered. It suggested that it was time for von Werra to get moving again.

For several weeks nothing was heard of him.

Then, on April 23, the news was out. "VON WERRA FLEES" screamed the headlines.

In Washington the Attorney-General was quoted as saying that von Werra was in Peru, and was probably trying to reach Germany via the Pacific and the Trans-Siberian Railway. He also said that von Werra's action "constituted a flagrant abuse of neutral hospitality which had been invoked on his behalf."

German officials blandly denied all knowledge of his whereabouts.

"The last I heard of him," said the German Consul General, "he was writing his memoirs in Westchester." Bernhard Lippert, with whom von Werra had been staying, told a reporter that the Baron had "gone south on a hunting trip."

In fact he had left New York on March 24.

His departure provides a good example of German disingenuousness. All arrangements were made for him, he was given detailed instructions where to go, what to do and how to behave. But German consular officials told him that, in view of their position, they were unable to provide him with the necessary cash. However, if he looked behind the cistern in the lavatory, he would find a present from someone who was interested in his case.

Von Werra did so and found one thousand dollars in notes and a slip of paper bearing a good luck message from "A friend." He pocketed the money and asked no questions. The cash had not been handed to him directly, and, later, consular officials were able to protest with virtuous indignation that they had not aided von Werra to escape.

The journey to the railway station from the home of the German official with whom von Werra had been staying was again in the best cloak-and-dagger tradition.

His two suitcases had been sent ahead to the station. A party of about half a dozen men

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left the house at night; only two, von Werra and one other, reached the station, the others having split off at various points of the journey to lay false trails. There were frequent changes of taxi, doubling back on tracks, entering buildings by one entrance and leaving by another. The purpose was to shake off any F.B.I. or British agents. Apparently they succeeded.

Von Werra left New York alone by train. He travelled south, following a planned itinerary. He made a couple of overnight stops at cities en route, where he was met, taken care of and sent on his way the next morning.

Finally he reached El Paso, on the Rio Grande, at the extreme western tip of Texas. At El Paso there are two toll bridges across the Rio Grande—the Stanton Street Bridge and the Santa Fe Bridge. On the opposite side is the Mexican city of Ciudad Juarez.

Von Werra had been told that control by U.S. authorities of persons and vehicles leaving America across the two bridges was very strict. He also knew that, once past the American checkpoint, entry into Mexico presented no difficulty. In order to encourage tourists from America, entry into the country was unrestricted to a depth of fifteen miles south of the border.

Von Werra arrived at El Paso by train at about 5 a.m. He left his two suitcases in the luggage office and made his way at once to one of the bridges crossing the Rio Grande.

He waited. At 6 a.m. Mexican labourers and peasants began to cross into the United States from Ciudad Juarez, on the far bank. They travelled by tram, bicycle and on foot. Some led carts piled with garden produce. They wore battered, broad-rimmed straw hats with high conical crowns, brightly coloured shirts, blue jeans and home-made sandals.

U.S. border police were out in force watching them enter the city. Now and again, carts filled with manure trundled past. The police waved them on hurriedly, screwing up their noses. Von Werra noticed that the few people the police examined were usually those carrying bags or parcels.

He could not hope to get his two suitcases past the control point. He would have to leave them where they were in the station luggage office. It was a wrench, for they were filled with clothing and presents, including nylon stockings, which he had bought in New York, for his fiancée and others. There was also a thick, leather-bound album of American press cuttings about his escape, which had been presented to him by a woman admirer in New York.

VON WERRA turned back into El Paso. He was wearing a new suit and a soft grey hat and carried a fawn gabardine raincoat. After lunch he found the bazaar district, where he bought a Mexican straw hat, a pair of jeans, a brightly coloured shirt and a pair of sandals. He went into a park, found some secluded bushes and changed into the clothes he had bought. To get rid of their obvious newness he screwed them up and rubbed them in the dust; the hat he stretched and bent out of shape. As he sauntered away, he wondered who would become the new owner of his Fifth Avenue turnout.

With the straw hat well down over his eyes, his jacket draped over one shoulder and his new sandals squeaking, he made his way back along Alameda Avenue towards the international bridge.

It was quite like old times, but he felt so ridiculous in the straw hat that he could not keep his face straight. If anyone spoke to him in Spanish he would have to play deaf-and-dumb as he had learned only a few words from a phrase book in the train.

The workers started drifting back across the bridge to Ciudad Juarez late in the afternoon. Half an hour later there was a steady stream.

Von Werra stood at the edge of the pavement about fifty yards from the check-point, watching from under his broad-brimmed hat. To passers-by he was just another idle, rubber-necking Mexicano. He had an idea and waited his opportunity to put it into effect.

An empty manure cart approached. The carter walked at the horse's head on the off-side, holding a rein in one hand and a stick in the other.

A quick glance in the back. Just the job!

Von Werra stepped boldly off the pavement and trailed behind the cart. The smell was appalling. There was a shallow backboard, and on the floor, within reach, was a manure fork—the thing von Werra had been hoping for.

Ten yards to go. The wooden wheels rattled and creaked on the axle. Von Werra hung his jacket over the backboard, picked up the fork and slung it over his shoulder. He was hidden from the carter by the hindquarters of the horse.

At the check-point there was a group of border police standing watching the pedestrians. Von Werra passed within a couple of feet of them.

Once over the bridge he replaced the fork in the back of the cart, picked up his jacket and joined the crowd on the pavement. The driver went on his way, ignorant of the fact that he had gained and lost a mate.

A little later von Werra squatted on his haunches, together with a crowd of other straw-hatted figures, on a platform of Ciudad Juarez railway station, waiting for a train to Mexico City, 1,300 miles away.

The train journey from Ciudad Juarez to Mexico City was the strangest von Werra had ever made.

He was a little apprehensive until the train passed the passport check point at Ysleta, twelve miles south of Ciudad Juarez; but, as he had been assured beforehand, the passport inspectors did not bother even to visit the third-class coaches. That was why, with the best part of one thousand dollars in his pocket, he was travelling so uncomfortably.

The carriage was packed with humanity, chickens and sucking pigs. Despite the ventilation, the smell was atrocious. Passengers changed from station to station, but not the smell.

But his fellow-travellers were child-like, gentle people and shared their food and wine with him as though he were one of the family. With the aid of pictures of himself and news items clipped from American papers, he tried to explain who he was and what he was doing in a third-class carriage.

No escaper ever had a less appreciative, a less comprehending audience. They seemed to think that Germany was part of Mexico or the United States; they thought of the war in terms of Mexican revolutions. They just beamed and passed him the wine from time to time.

The journey lasted two days and two nights. The train pulled into the terminus, Buenavista Station, Mexico City, in the evening of March 28. The German Embassy in Washington had warned the Embassy in Mexico to expect von Werra on that date.

Five minutes after the train arrived, an unwashed, unshaven smelly little man, wearing a crumpled shirt, jeans, creased concertina fashion, a Mexican straw hat tilted back on his head and a jacket draped over one shoulder, detached himself from the crowd spilling out of the station. He looked along the rank of parked cars and taxis and suddenly grinned. He had spotted a gleaming Mercedes-Benz, bearing the letters "CD." The uniformed chauffeur, obviously a German, scanned the crowd chin in the air. He ignored the grubby little Mexicano completely.

"*Grüss Gott!*"

The chauffeur's head jerked. His mouth opened.

"Oberleutnant Franz von Werra. Any chance of a lift?"

The chauffeur's face registered distrust, bewilderment, dawning comprehension, pleasure. He clicked his heels, grinned and opened the door quickly with a flourish.

"At the Herr Oberleutnant's service! Will the Herr Oberleutnant permit me respectfully to welcome him to Mexico City?"

Von Werra leaned back in the luxuriously upholstered rear seat. There was a faint smell of cigar smoke and perfume. The Mercedes bowled down the broad, straight Avenida de los Insurgentes and into the Paseo de la Reforma, with its wide dual carriageways, green trees, grass verges, flower beds and skyscrapers.

He felt a little sad. From now on he had only to obey orders and follow instructions. Everything would be taken care of. He had no further need of initiative.

His escaping days were over.

The next day Oberleutnant Franz von Werra temporarily assumed the identity of Dr. Bernd Natus. The German Embassy in Mexico issued him with a German diplomatic passport in that name, but bearing his own photograph and physical description. The faked passport has been preserved.

Von Werra spent one night at the German Embassy in Mexico City. The following morning he went shopping to renew his wardrobe, and in the afternoon he left by car for the ambassador's country house at Cuernavaca, fifty miles south of the city. He spent an enjoyable weekend there, sunbathing, dipping in the swimming pool from time to time, playing with the ambassador's two young children, shooting pigeons and taking the dogs for walks.

On April 1, von Werra left Mexico City by air. He arrived at Panama on April 3, was in Peru on April 5 and Bolivia on April 8. From there he flew to Rio de Janeiro.

Two days later he left Rio in a plane of the Italian Lati line. It reached Barcelona, in Spain, on April 16 and Rome on April 17.

For security reasons, von Werra's identity was concealed even from German passport officials and, to his disgust, he arrived at Templehof Airport, Berlin, on April 18, 1941, as Dr. Natus.

For the same reasons of security, his reception in Germany was an anti-climax. There were no reporters, no photographers, no flowers, no toasts, no autograph books to sign, no hero worship. He was not allowed to see or communicate with any but his relatives and closest friends, and even they were ordered to tell no one of his return. Later this secrecy was relaxed and he began to reap some of the pleasures of fame—receptions, parties, flowers and adulation—but the ban on press publicity remained in force. The German public as a whole was kept in ignorance of his return.

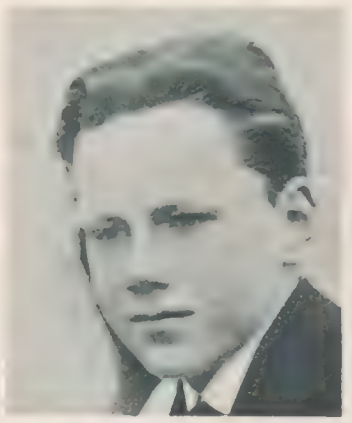
A FEW weeks after he got back, von Werra went to the Reich Chancellery to receive from Hitler's hands the Knight's Cross awarded him for his supposed attack on a British airfield. Hitler congratulated him on his escape and on the exploit which had earned his decoration.

All arms of the Wehrmacht, the intelligence agencies and other departments were anxious to obtain information from von Werra.

He was kept extremely busy. The information he took back to Berlin was not confined to matters of interest to the Luftwaffe. For instance, as a result of his talks with captive U-boat officers, he was able to give the German Navy valuable details about how certain U-boats were sunk—destroyer manoeuvres prior to attacks, depth-charge patterns and intervals, and certain facts about Asdic, the Royal Navy's underwater listening apparatus.

Von Werra was promoted to Hauptmann (Flight-Lieutenant) by Goering

MY BROTHER Victor



HE was my elder brother, and was most unhappy at boarding-school. Victor used to escape from its rigours on every possible occasion. Once he went so far as to sell his beloved stamp collection to obtain his rail fare home.

When I came out of my kindergarten I found Victor waiting for me, and as we walked home together he told me that he could not bear his school any longer. He was, he said, dying of malnutrition. I felt so sorry for him that I helped him to hide in some old dust sheets in an empty attic in our house. Eventually he crept downstairs, terrified of the ordeal of meeting our angry parents. Father was finally persuaded to agree that he need not go back.

There were six children in our family, and our father was the Vicar of Wembley. The big event of the year was the Bishop of London's Boxing Day children's party and ball, to which we eagerly looked forward. When dancing time came, however, Victor and his pals used to stand in a corner and compete to see who could eat the most ice-cream. I could never get him to dance with me. He said that dancing was for girls and that boys who danced must be very soft.

My brother's first contact with music was when he was at boarding-school. Boys who were accepted for the school choir were given jam twice a week. Victor practised hard, joined the choir and got his jam.

When he was just fourteen, during the first World War, he ran away from school again and joined the army, lying about his age. This secret he kept until he was sixteen, when unfortunately his new sergeant-major turned out to be a neighbour.

Before the authorities had been notified, Victor quickly transferred to another regiment and went abroad. He was wounded twice, but I was bursting with pride when I learned that he had been awarded the Italian Bronze Medal for valour.

He was always running away from places. He finally ran away from Sandhurst where he had gone after the war ended to become a Regular officer. He went instead to the Imperial Science College, where he studied entymology, and for several years he developed a passion for insects.

He devoted the same great care to them as he showed when he made perfect little labels for my birds' eggs. In fact, he displayed even then the thoroughness that has brought him such success in his career.

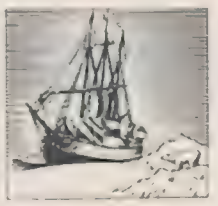
WHO IS THIS FAMOUS BROTHER? See page 46

ROWNTREE'S FRUIT GUMS
ROWNTREE'S FRUIT GUMS

IT'S HARD WORK playing at Polar exploration. And even in this so-called temperate climate the wind can soon chill little fingers—especially when he just won't keep his gloves on all the time. But now he's back at Base Camp—with a good hot cup of Bovril to warm him up and see that the weather's done him no harm.

What a blessing children are so fond of Bovril! It's the grandest winter drink of them all. Tempting. Warming. Fortifying. Because Bovril is made from beef.

It will do *you* good, too, to have a piping hot Bovril when you're cold or tired. Bovril cheers and revives you as nothing else can. And because it's prime *lean* beef that Bovril's made from, you needn't have any worries about your figure. Get the Bovril habit now. It will help you and yours to ward off colds and chills this winter.



Few Polar expeditions went without their Bovril. Shackleton himself said "I am certain that it was one of the greatest helps during that long and arduous journey."

BOVRIL

puts beef into you

You **need** your

FOX'S

Glacier

MINTS

Glucose for energy — Peppermint to aid digestion

THE FINEST PEPPERMINT IN THE WORLD

in recognition of his escape, and in the middle of June, 1941, he flew a Messerschmitt again for the first time. A week later, on June 22, Germany invaded Russia.

Von Werra remained in Berlin, answering questions, writing reports, giving lectures.

The conquest of Russia was regarded as a foregone conclusion—a matter only of weeks. Luftwaffe pilots, especially fighter pilots, approached the campaign as though it were money for old rope. Von Werra read of the tremendous scores fighter pilots on the Eastern Front were knocking up, and fumed with frustration.

When he was shot down over England he had been in the top ten, with thirteen accredited victories. Now the top aces had about sixty, while pilots he had never heard of were up in the forties. He had been left hopelessly behind.

At the end of a fortnight of persistent wire-pulling von Werra finally had his way. He was posted to the Russian front as commanding officer of the First *Gruppe* of No. 53 Fighter *Geschwader*.

IN August, von Werra's *Geschwader* was withdrawn from Russia to be re-equipped with a new version of the Me 109. During his few weeks at the front he had been officially credited with eight more air victories—bringing his supposed total of "kills" so far to twenty-one.

From Mannheim he went o ve—the last leave of his life. It also his honeymoon. He was r ! at Beuron, the little village in hern Germany where he had bee ought up. The honeymoon was ent in Italy.

In September, von Werra's *Gruppe* was moved to the coast of Holland, and his wife went with him. They rented a converted fisherman's cottage by the sea.

The rôle of von Werra's *Gruppe* was purely coastal defence. After taking off from Katwijk on patrol he would fly over his cottage, dipping his brand new Me 109 in greeting to his wife.

On the morning of October 25, leading a patrol of three fighters, he dipped over the cottage as usual and turned out to sea. Twenty miles out, his engine developed a fault. Before the other two pilots realized there was anything wrong, his aircraft tipped forward and dropped like a stone into the sea.

Although air-sea rescue launches and salvage vessels ordered out by Reich Marshal Goering sped to the scene, no trace was found of von Werra or the aircraft.

It was stated that he had been killed in action—in Russia, according to some newspapers, leading his *Gruppe* in attack after attack until he met a hero's death.

In contrast to this was the report of the court of inquiry set up by the German air safety branch to investigate the loss of von Werra's aircraft. The court privately reported that the accident was due to engine failure and the pilot's carelessness.

Either way, the result was the same: this time there was no escape.

THE END

"The One That Got Away" is published as a book by Collins and Michael Joseph at 16s.

MY BROTHER VICTOR

See page 44

Victor Silvester, the ballroom orchestra leader, is Miss Gwen Silvester's brother

Shipmate ashore

Continued from page 39

catch fire the water destroyed most of her cargo."

The renewal of contacts at the end of each voyage means that Swann and his staff are on familiar and friendly terms with most of the officers on the ships they represent. The seamen change with each voyage. "Only a few of the older type of seamen like to stick to the same ship," Swann says.

A senior captain of the Palm Line says: "When we get back after a long trip we're inclined to feel a bit lost. The ship's agent helps us to find our shore legs."

The captain of a Palm Line vessel once invited one of Swann's assistants, Reg Humphries, to meet an extra passenger called Percy. Wondering if he was about to be confronted with a stowaway, Humphries followed him below decks to the mate's cabin, where he was shown a wooden box. Cautiously Humphries raised the lid, then jumped back quickly as a snake reared up. It turned out to be a young python, addressed to George Cansdale, the zoologist. The mate, who had been looking after it during the voyage, picked up the snake and stroked it. "Percy's quite harmless. He's almost a ship's pet."

EXPERIENCE—1

To most men, experience is like the stern lights of a ship, which illumine only the track it has passed.

S. T. Coleridge

Of the most undesirable of ships' passengers, Swann reserves first place for stowaways. These occur much less frequently now than a few years ago, when Swann received a radio message from the master of a ship three days out of Takoradi announcing that seventeen stowaways had materialized. All of them were Africans who had been hired to clean the engine-room.

Swann, a busy, humorous veteran of ships and shipping, has spent forty years in the trade. As a boy, he recalls spending much of his time crossing Woolwich ferry, watching the shipping in the river. In the service of ships and their crews he has amassed a profound knowledge of seamen of all nationalities: "Like most other professions, there have been great changes in the last twenty years. Life is much more congenial for seamen now, but the old traditions of the merchant service are losing strength."

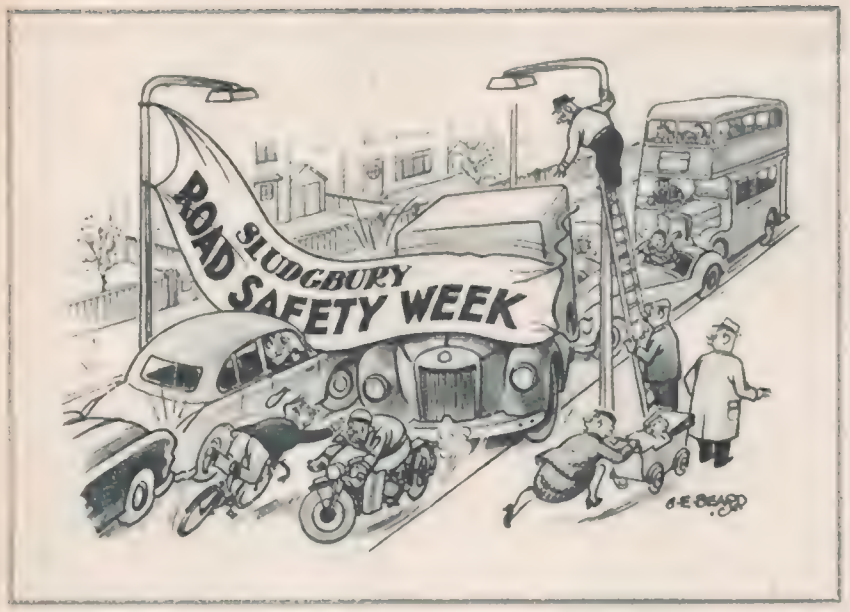
A few months ago, a cabin boy was sent from Denmark to fill a vacancy in a Danish ship berthed in London. From the agency offices, a member of Swann's staff conducted the boy to his ship. Once on board, he complained that he had been deceived, and that he had expected to serve aboard a ten thousand ton luxury liner. A few hours later, he deserted.

On the following day the ship's captain appeared in Swann's office in Seething Lane, and dumped the boy's luggage in front of his desk. Angrily he told Swann, "I don't want to see him again if he *does* turn up."

Quite often there is a desperate last-minute rush by Swann and his assistants to make up the crew of one of their ships which is about to sail. Their task is complicated by a tradition among seamen which calls for a celebration on the eve of sailing. One seaman was found by Swann wandering about on the quay. He had forgotten the name of his ship. Another arrived regally at the quayside in a taxi for which Swann had to lend him the fare.

Swann was seeing off a ship which was short of one member of its crew, when the errant seaman appeared beside him on the quay. "I managed to get him aboard," Swann relates. "One of the riggers obligingly worked a crane, and as I shouted 'Goodbye' he was swung across the water on a chain hook."

THE END



Hidden harvests in the desert

Continued from page 27

amount of land. Robertson reckoned that he could reduce the size of the plot, increase the wheat yield and comfortably net the 185 dinars by rotating Egyptian clover with the main crops. The clover could serve as a fertilizer and as pasturage. Robertson's recommendations are being carried out.

"A land survey begins usually in the air," says Robertson. "Before the field work, we study a complete photographic map of the area. From the vegetation, soil patterns and other signs we can identify the boundaries of different types of soil. With perhaps thousands of square miles to cover this system saves time. From one soil test and a glance at the photographs we know how far that type of soil extends."

Equipped with photographs, microscopes, spades, Land-Rovers, tents, a portable laboratory and stores, Robertson's teams set out. They begin with a reconnaissance, checking the areas which appeared from the photographs unsuitable for development. Then they find a site for a base camp.

Robertson employs local labour to carry equipment, dig holes, fell trees and guard the camps. By custom in Arab territory, he has to apply for men to the village sheikh. "It's a real operation," says Robertson. "The Arabs are tremendously hospitable, and one has to eat, drink sour milk and coffee, and chat for hours before they will talk business."

When wars flare up between villages, Robertson and his men have to watch where they take the labourers. One soil scientist inadvertently drove with an elderly labourer into his enemies' territory. As the labourer dug a pit, an Arab walked up, stared furiously at him, then hurried off. A little later another Arab, with a rifle, turned up and suggested to the scientist through his driver-interpreter that he should leave the old man behind and that the pit would make a convenient grave.

While the old man shook with fear, Robertson's colleague ignored the threat until, around midday, a line of heads and rifles appeared on a neighbouring ridge. The Arabs waited for the scientist to get out of the way. Instead, he told the old man to get in the Land-Rover and the driver to idle the engine while he gathered the equipment. Then they beat a hasty retreat.

"At each site where we sample the soil," says Robertson, "we first note its surface pattern and vegetation, which indicate the prevailing conditions. Then we take plant and soil samples. A labourer drills out the soil with an auger which has a six-inch hollow core. He lays the samples, taken to a depth of a metre and a half, in a line, and the scientist notes their texture and colour." In the Iraq survey, Robertson's teams made ten thousand of these samplings.

At regular intervals the scientists also take samples with the auger to a depth of five metres. They compile still more detailed information from pits dug at representative sites to a depth of one and a half metres. "These pits," says Robertson, "may take anything from an hour to a day and a half to dig." From the field, the scientists send soil and plant samples for additional analysis in Britain. "We finally return home to sort out the work, make our maps and pass them, with our report and recommendations, to the client."

Hunting Technical Services grew from an idea of a director of Hunting Aerosurveys, who felt that aerial photographs taken to map a country could provide an excellent basis for assessing the country's natural resources. In July, 1953, a Natural Resources Department was opened and Robertson, then a Cambridge University lecturer, was appointed to run it.

VERNON COLIN ROBERTSON, who is now thirty-four, joined the army straight from school in 1939. He had a passionate interest in natural history and farming, but after the war had neither the capital to buy a farm "nor the inclination to become a cowman." At Edinburgh University he read agriculture on a three-year war service grant. He did well and spent a fourth year taking a post-graduate diploma at Cambridge. He then took a two-part job at Cambridge, teaching agriculture and managing the university farm.

In his fourth year at the job he began to feel that his career had not shaped as he had hoped. He wanted to specialize in plant ecology, the science dealing with the relationships between plants and their surroundings. When Hunting Aerosurveys sought an ecologist to start the Natural Resources Department, he at once applied for the job.

As the sole member of the new department he went straightaway to the Middle East, prospecting for work. Within a year he had started two major contracts in Jordan and Iraq and employed a staff of sixteen.

From the calm atmosphere of Cambridge, Robertson has moved to a life, "perhaps a little more hectic than I expected," which takes him abroad for about seven months of the year. Today, he directs a technical team which includes soil scientists, foresters, agriculturists, geologists, geographers and another ecologist. In each of its first three years the company has paid its way.

Robertson has observed native life and customs closely during his travels. He has found that the average uncivilized native shares one habit with the average civilized Briton.

"In the middle of the desert one day, with not a soul in sight, we started to dig a hole. Within a few minutes chaps came ambling over all parts of the horizon and squatted around, just watching. This has since happened scores of times. The natives are just like the crowd who gather round the road works on the local High Street."

THE END

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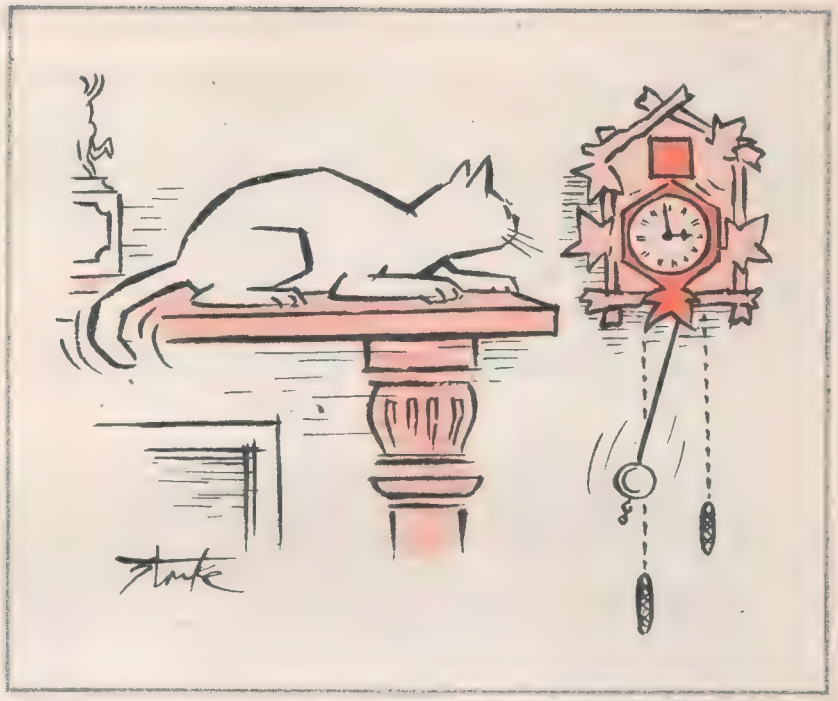

Golden Goddess

Continued from page 23

red ribbon of blood float away on the golden surface of the water, joining him to Tina.

Beyond her the boat bobbed on the falling swell of a wave, the sea anchor stretched behind her. Tiredly, as if his limbs were lead, he began to swim towards it, drawing Tina beside him.

"Into the boat, Tina," he begged her. "Into the boat." He put his hand over the side and found that he was holding something. He dropped it irritably, and heard the heavy clink of it as it rolled into the scuppers.

"What the hell was that?" he said aloud. Tina coughed up half a pint of sea water and began to sink. Nicki grabbed her hair and yanked, and she came up again, choking and spluttering, but alive.

They flopped over the gunwales like drunken seals and for a long time they lay in the bottom of the boat, while the sun poured warm yellow wine on their bodies, filling them with life again.

"We are alive," Tina said at last. "At least I think we are. Don't you ever dare do that again, Nicki."

He was too tired to say anything, and they both lay still again. Nicki felt that all anyone in the world could want was to lie in three inches of water in the bottom of a soggy, waterlogged hulk of a dinghy and breathe fresh air and look at the sky; and be warm; and feel Tina warm against him.

He moved his head and Tina's cheek lay against his mouth, and it was quite right to kiss her; quite right to hold her in the fold of his arms, to warm her cold mouth with kisses, to feel her sea-wet hair against his throat.

"Tina," he whispered, "I love you and no one in the world is going to take you away from me. Not your father. Not Stephanos. . . ."

Stephanos! Nicki sat up with a jerk and felt like a madman over the scuppers. Oh, Mother of God, what had he done? Had he dropped it back through those seventy hideous feet of water to bury itself in mud and sand again?

He found a rowlock and his heart did a somersault as he touched it. And then he found the treasure.

He was afraid to look at first. The sea had washed it clean, except for the tight green slime that clothed the little statuette like a skin. It was a small figurine, six inches high on a round metal base; a woman naked as the morning, her head bent forward slightly and her arms folded across her breast as if she was receiving worship.

Tina leaned over and scratched it with her fingernail, and sunlight sprang from it, bright as the day it left Cellini's workshop.

"Gold!" Nicki said in a hushed voice, and his hand shook as he realized that he was holding an aqualung, and a new boat, and Tina's bride-money, and sheep for his mother; holding more money than anyone on the island had ever seen, even Father Basilides, who had three cows and a servant.

"We must get it to the Americans," said Tina. "Today, without telling anyone." And as she said it they heard the cough and snarl of Stephanos's outboard motor.

They looked at each other, the same fear in both their eyes. How long had they been here, lying half-asleep recovering in the bottom of the boat? An hour? Two hours? They should have been back, and Tina ashore, long ago, before the village was properly awake, before Tina's father could be looking for her, or Stephanos. And if they were found here. . . .

Nicki remembered what Stephanos had said. "If I find you kids out in that hulk of yours again, I'll run you down, and I've a six-foot boathook that says you won't get back to shore by swimming."

They could hear the uneven roar of the outboard settling down into a steady whining snarl.

"We must get round the other side of the Point," Nicki said. "Let the sea anchor go." He slashed the frayed rope with his sponge knife and grabbed the oars.

They had drifted out while they had been resting. They were almost a hundred yards from the rocks, and the best part of a mile from the harbour.

NICKI rowed till his muscles cracked, slanting in diagonally across the current towards the far side of the Point. There was a strip of beach there, where he could land the boat and they could go straight across the island to the Americans' camp without touching the village.

"Is he round the Point yet?" he said to Tina. He could hear the outboard still, but oddly enough it seemed no closer. Maybe Stephanos wasn't looking for them after all. Maybe he was only going out to dive.

"Will your father know you're with me?" he said, and Tina shrugged.

"They had a late night at the inn and they were all drunk," she said. "He may still be sleeping it off."

"Then maybe if you go straight back, nobody will know. I'll go to the Americans alone. And when I come back"—he closed his hand into a fist—"Stephanos and I can discuss your future on equal terms."

"Do you think I'd let you go by yourself?" Tina retorted. "A booby like you that would swop a cow for a goat if someone smiled at you? I'm coming, too."

The outboard had stopped, and Nicki relaxed, rowing slowly and easily the last fifty yards to the shore. Stephanos must be diving.

The water lapped softly at the white sand of the beach. It was hard to

think that an hour or two earlier they had been near death in that gentle, sun-warm water. The sky was a blue bowl of hazy porcelain above their heads, and the grass was green as emerald velvet above the bone-white cliffs.

"Oh Tina, Tina," Nicki sang, "wine is good and cheese is fine, but better still to call you mine." It was the old children's song that they had sung to each other since they could remember, playing at weddings under the vine trellises behind the inn.

They climbed steadily, hand in hand, stopping every few paces to look at the little golden goddess again. Once, perhaps, she had been a toy for a merchant captain out of Venice, standing as a paperweight for his ship's documents; invoices for bales of silk from Persia and spices from Arabia; Damascus blades and Genoa velvets. But the merchant captain, knowing nothing of his Cellini Aphrodite except that it was gold, could never have valued it as Nicki and Tina valued it.

They came to the crest of the headland and turned inland, along a narrow goat-track. A hundred yards ahead of them it ran through a little basin of pasture, green and lush as a jewel, and beyond that it divided, one arm turning right to the village, the other bearing slightly left and running three miles straight across the island to where the Americans were digging up old graves and an ancient house.

They were only a hundred yards to the fork when they saw Stephanos, leaning against a rock and waiting for them. When they looked down to the right, they could see his boat rocking at anchor. That was why he hadn't caught them up. He had simply headed them off.

They were close enough to speak now, and they could see the knife in

EXPERIENCE—2

Experience is a comb, which nature gives to men when they are bald.

Eastern Proverb

Stephanos's hand; not a sponge knife with a broad, flat blade, made for work, but a stiletto, made for killing and nothing else.

The sea lay smooth and beautiful below the white rocks and the golden statue was suddenly very heavy in Nicki's hand. There wasn't any way to turn. Behind them was only the sea, and Stephanos had the motor boat that could catch them and crush them before they had gone a hundred yards.

There was only one way to go and that was forward.

Nicki gave the statue to Tina. "If he kills me, throw it into the sea," he said. "I wouldn't like him to have that as well as you. And try to remember me."

"He'll have to kill me, too," said Tina.

Stephanos was standing away from the rock now, watching them. He was a broad man, built like a barrel, his belly tight with fat against his heavy belt. His face was almost black with a night's beard and his eyes were narrow, shining slits above the padded fat on his cheekbones.

He held out the stiletto so that its blade glittered in the sunlight. "This is for you," he said conversationally to Nicki. "And this"—he touched his belt and jerked his thumb at Tina—"is for you."

Nicki licked his lips and slid the sponge knife out of its flat sheath. "They'll hang you," he said, trying to believe it. "Leave us alone and we can talk about this tonight at the inn."

He knew he was sounding like a coward and he was ashamed to look at Tina's face. *But, then, I am a coward,* he thought, *so why shouldn't I sound like one? Who isn't a coward when he sees death standing in front of him?* He could feel the palm of his hand sweating and wanted to wipe

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it on his shirt. But he was too close to Stephanos now.

"I warned you," said Stephanos. "If you'd been five years older I'd have killed you weeks ago. Because you were just a kid that didn't know its own grazing patch, I warned you instead. But I never warn anyone twice."

All the time he was speaking, his voice was low and even, almost soft, the way it was when he bet on a good hand down at the inn. But his feet were moving, sliding softly as snakes in the deep, concealing grass, inch by inch forward, his knees bent a little into the bow-legged crouch of the trained knife-fighter.

As he said "twice," his voice still low and casual, his body exploded into movement, the knife one long flicker of steel through the six feet of air between them, the big, barrel body coming light as a rubber ball. Nicki ducked and twisted, and the knife grazed his shoulder, leaving a long sting of pain behind it. But he had to duck to the right, masking his own knife hand; and, before he could bring it round, Stephanos was out and away again, first blood staining the long, slender blade in his hand, and a cat's smile on his face that said he could have ended it then if he'd wanted to.

They circled each other, right hand, right foot forward, bodies swaying; in . . . out, in . . . out, looking for an opening, the flicker of an eye, the turn of a foot on a loose stone, the one fraction of a second that would give one of them the chance he needed.

But all the cards belonged to Stephanos. He had learned his fighting on the mainland, in the grim, twisting slums behind the Piraeus. All that Nicki knew of it was boys' play with sticks.

If only it were their hands, wrestling: he could throw Stephanos from here clear into his boat. But it wasn't only their hands. And he was tired already; tired from the long struggle in the ship's cabin against the sand and water.

Their feet shuffled in the long grass and, ten yards away, one hand to her mouth and her eyes huge shadows of fear, stood Tina, the little goddess still gripped in her other hand, forgotten.

Stephanos stumbled and Nicki came diving in, blade swinging in a silver curve, and he was half-way there before he saw it was a trick, that he was flinging himself on the bright, waiting point of the stiletto, as Stephanos knelt on one knee and held the knife ready. Nicki twisted in the air and the point gashed his thigh.

There couldn't be much more of this. *I've only one chance*, he thought, *I've got to get his knife*. He limped and winced and he saw the smile spread wider on Stephanos's face.

"You like this game?" said Stephanos. "Better than stealing men's girls?"

Nicki took another step and his gashed leg folded a little under him, his mouth twisting with pain. He half closed his eyes, and Stephanos moved in closer, his shoulders looser and less tense than they had been. This was the kill. One more stumble and he'd be in, the knife six inches deep between Nicki's ribs.

Now it was that Nicki stumbled. Stephanos came in almost slowly, wanting to savour the moment, not wanting to end it too quickly. His hand and blade swung, and a long, long way away Tina screamed and began running across the basin of grass, the little goddess swinging in her hand like a club.

But Nicki saw only the stiletto coming, a long sweeping curve of silver brilliance aimed at his heart. As it came, he dropped his own knife to leave his right hand free to grab Stephanos's wrist. If he missed. . . .

He felt the shock of Stephanos's weight driving into the fork of his own thumb and forefinger, and for a hideous fraction of a moment he felt flesh slipping against flesh, oiled by sweat. And then the grip took and he had Stephanos's hand and was twisting, turning his own body at the same time. A long way away was a noise like two rocks hitting and then Stephanos was in the air, a great shadow of darkness skidding through the blue sky. There was a heavy thud as he hit the ground five yards away, and then there was silence.

"Did I kill him?" said Tina.

"Did . . . did *you* kill him?" Nicki cried. "Are you crazy?"

For answer she held out the statuette of the goddess. It was bent at an angle to the base and on the rim of the base there was a wisp of black hair and a bright stain of blood.

"I hit him with it," said Tina. "I thought he was going to kill you."

"I thought so, too," said Nicki, "but I'm hard to kill." The sky began going round, faster and faster, and he buckled slowly at the knees and sank face downwards into the deep grass. . . .

WHEN he came to, his face and shirt were wet with sea water and he was lying on his back. Across the basin of grass Stephanos was lying against a rock, his mouth hanging open and his head shaking as he tried to clear it. Tina was standing above him, the statuette swinging lightly from her fingers.

"Would you like me to hit you again?" she said, with an evenness that carried conviction. For answer, Stephanos flung his arms across the top of his head.

"If we were married I could hit you like that every day," Tina said, "every time you weren't looking."

Stephanos looked at her with frightened hatred. "I wouldn't marry you if you were the last woman in the Mediterranean," he said. "I wish that puppy over there all the misery you'll bring him. Get out of my way and let me alone."

Tina stood back and Stephanos clambered to his feet, his eyes still watching her hand suspiciously, and as long as he was within her reach he walked backwards. Then he turned and stumbled down the side of the headland to his boat.

After a little while they heard the outboard starting, and saw the white arrow of the motor boat's wake creaming away from them across the sapphire blue of the sea. THE END

The Climate

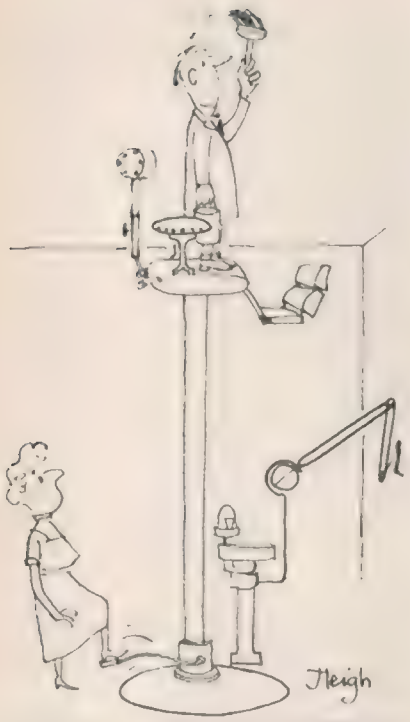
by R. P. LISTER

The English climate is a thing of jest,
A matter of derision, and a mockery.
Let but the wind blow ten days from the west,
The Parson's field is washed into the rockery;

Then to the east it turns, and from the fringe
Of grey old Tom's moustache depends an icicle.
Southward it veers; at once his bootsoles singe,
The melting tyres run liquid from his bicycle.

But let rude Boreas sit back and roar,
Drumming his heels and chanting his wild litany—
The tithe-barn totters, and the dairy door
Flies through the air and comes to earth in Brittany.

That's why the English skins are like red leather,
And why their language is so widely dissipated—
They fled abroad to dodge the English weather,
That always turned out worse than they anticipated.



The invisible boy

Continued from page 37

spanner," interrupted the physicist. "Now allow me to rephrase the question. Why is my son intellectually retarded, in spite of his general background?"

"May I request relevant data?"

"Proceed," said Doctor Merrinoe regally. "I will endeavour to be quite objective."

"If I may make a suggestion, sir," said Peeping Tom, "why not tell me about Timothy in your own way? I will marshal the facts as they emerge."

DOCTOR MERRINOE was too immersed in the proposition to realize that a milestone in the history of electronic computers had just been passed. It was the first time one had ever made a suggestion on its own initiative.

"As I see it," began the physicist thoughtfully, "Timothy has one outstanding quality—stubbornness. He's as stubborn as a mule with a carrot complex. At first, I told myself it was only a sort of sturdy independence, but. . . ." And he went on and on, talking through half the afternoon.

Finally, Peeping Tom delivered his verdict: "The available evidence, sir, points clearly to maladjustment. However, there is——"

"Maladjustment!" snorted Doctor Merrinoe. "Of course the boy's maladjusted. That's what I've been wasting my time telling you."

Peeping Tom's eyes glowed brightly. "I do not imply that Timothy is a maladjusted child," he announced. "But you, sir, seem to be a maladjusted parent."

Doctor Merrinoe tried to preserve a tiny shred of scientific detachment. "An interesting theory," he conceded, with some irony. "Naturally you have a solution to offer."

"Naturally," agreed Peeping Tom. "Since you have failed to arouse the boy's intellectual curiosity, it follows that a different stimulus should be applied."

"What?" inquired Doctor Merrinoe.

"Me," replied Peeping Tom. . . .

Doctor Merrinoe closed the front door quietly behind him, and managed to raise a tired smile for his wife.

"Had a good day, darling?" asked Mary.

He noted with satisfaction that, at thirty-seven, she was still uncommonly attractive. It was a great consolation.

"Terrible!" he answered. "Where's Timothy?"

"Watching some cloak-and-dagger stuff on the television."

Doctor Merrinoe snorted: "I've a good mind to take an axe to that damned box of tricks. . . . Has Wonder Boy dined?"

"Yes; he didn't want to miss the play."

"'He didn't want to miss the

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good tea-and FRESH!

play,' " echoed Doctor Merrinoe irritably, following his wife into the dining-room. " Well, I suppose we ought to be thankful for a quiet meal together, anyway. Incidentally, I want to have a little chat with him afterwards. Do I smell something burning?"

Mary sighed. " Only yourself, dear. Look, why don't you see a psychiatrist?"

" About Timothy?"

" No, about you. Timothy's all right, but he seems to be giving you an over-size anxiety neurosis. If you left him alone, we'd all get along far better."

" Anxiety neurosis! The boy can't even tell me what the square root of eighty-one is without behaving like a contortionist."

" Neither can I."

Doctor Merrinoe said gruffly: " I didn't marry you for your brains, darling."

" And I," retorted his wife, " did not conceive Timothy for his. . . . Now don't argue; it's bad for your digestion."

DOCTOR MERRINOE did not argue. At last, when he had simmered down and was lingering over his second cup of coffee and a cigarette, the object of his outburst deigned to put in his appearance.

" Hallo, Dad," said Timothy, peering cautiously round the door.

"Hallo, Tim," said Doctor Merrinoe, coaxing his face into what was meant to be a friendly smile.

Placing a more reasonable interpretation on the expression, Timothy advanced and tried to make his voice sound sympathetic. " Have you got neuralgia again?"

" No, I haven't got neuralgia," retorted his father irritably. " Whatever makes you think that?"

" Nothing."

" Then don't be an idiot. . . . Did you enjoy the play?"

" It was passable. I wish they'd do another about space flight, though."

" If you're interested in space flight," began Doctor Merrinoe diplomatically, " how would you like to be able to work out the escape velocity of a moon rocket?"

" Not very much, thank you. I'd rather build one."

" You can't build one until you know enough maths to——"

Timothy yawned. " That's why I'd rather watch it on television."

His father began to look as if he'd got neuralgia again, only worse. " Timothy," he said gently, " how would you like to come with me tomorrow and see Peeping Tom?"

" That old brain you've been making?"

" Yes."

" Oh! Tomorrow's Saturday, isn't it?"

" It is. Does that make any difference?"

Timothy took a deep breath. " I was hoping to go to the pictures."

Doctor Merrinoe likewise took a deep breath. " You're going to see the brain. . . ."

On Saturday afternoon a tall man and a small boy threaded their way through the vast weekend necropolis of Orion Electric, Ltd. They climbed up a narrow staircase and entered the control room.

Doctor Merrinoe pressed the master switch, and Peeping Tom's eyes glow drowsily. Timothy was mildly impressed.

" I am alert, sir," said Peeping Tom. " What are your instructions?"

Doctor Merrinoe settled Timothy in the audience chair.

" I shall leave my son, Timothy, here while I finish some work in my office. You will answer any questions he may ask, and generally keep him amused until I return."

" Yes, sir," boomed Peeping Tom.

Doctor Merrinoe could have sworn that the brain managed to wink. As he went downstairs again, he heard Timothy's opening gambit. " If one and a half squirrels ate one and a half nuts in one and a half days, how many nuts would nine squirrels. . . ."

Doctor Merrinoe sat in his office, entirely absorbed in a science fiction magazine. Eventually, he looked at the desk clock, and was suddenly jerked back to earth. Two solid hours! He'd only meant to leave Timothy for forty-five minutes or so.

" Don't tell me George has another new theory about making his hair grow "

As he opened the door, Peeping Tom's discourse was coming to an end. Timothy was fast asleep.

Doctor Merrinoe felt a wave of relief. " The experiment seems to have produced a negative result," he remarked, staring at his gently snoring son.

" Merely a deep-level hypnosis, sir," explained Peeping Tom. " It was necessary to by-pass the inhibiting factors before I could work on his mind."

" Before you could *what*?" Doctor Merrinoe gaped.

" Before I could work on his mind. He has now received an advanced course in mathematics and physics. I trust you will find the result satisfactory."

" There's just one small point," said Doctor Merrinoe, breathing heavily. " My son is not a machine."

" No, sir," agreed Peeping Tom. " Therefore I allowed for a seventy per cent inefficiency. . . . Perhaps you would care to waken him gently?"

The physicist did so. After a few moments, Timothy opened his eyes, yawned and stretched. " Very interesting," he remarked vaguely, " but can we go home now? I'm hungry."

Doctor Merrinoe treated the electronic brain to a pitying smile. But Peeping Tom made no comment.

The first reaction occurred after an unusually quiet tea. Instead of gluing himself to the television, Timothy disappeared into his father's study, to emerge several minutes later with a book. He then found a quiet corner, settled himself and began to read.

" You've been bullying him," accused Mary in a whisper. " What went on this afternoon?"

" Nothing," said Doctor Merrinoe uncomfortably. " Nothing at all. I just left him to amuse himself with Peeping Tom while I cleared up some work."

" Well, somebody has been bullying him," she insisted. " Or else he's feeling ill."

Timothy looked up from his novel. " Do you think a man could make himself invisible?" he asked.

" Certainly not," replied his father. " Why?"

" That's what this book is about—The Invisible Man. It looks a pretty good story."

Remembering his own H. G. Wells period, Doctor Merrinoe was surprised. " Isn't it a little too hard for you, Timothy? I didn't read it until I was fourteen or so."

Timothy smiled. " It's old-fashioned, but I can manage. . . . How would you like a game of chess, Dad? We haven't played for some time."

Doctor Merrinoe felt slightly uneasy. " I thought you didn't like chess. You used to say it bored you."

" It did," said Timothy blandly. " But I was younger then." He rubbed his freckled forehead and looked puzzled for a moment. Then he went to a small bureau, took out the chessmen and board, and began to set up the pieces. He grinned pleasantly.

" I think I'll watch the television," said Mrs. Merrinoe faintly, " while you two geniuses fight it out."

Doctor Merrinoe looked at her, gave a helpless shrug, then turned his attention to the chessboard.

" Would you be angry if I beat you?" demanded Timothy.

" Certainly not," snapped Doctor Merrinoe, opening with his king's pawn. " I should be very glad indeed—also surprised."

" I shouldn't," said Timothy.

But after fifteen minutes, his father checkmated him easily—with a feeling of relief. The boy had not changed—or very little, anyway.

" You weren't playing your best," accused Timothy.

" I beat you didn't I?"

A crafty smile flickered over Timothy's face. " Let's have another game. I'd forgotten some of the gambits."

" Thirsting for revenge?" said Doctor Merrinoe dryly. He set up the pieces again.

Timothy frowned slightly, then said with some hesitation, " Would you give me a pound if I won?"

Dr. Merrinoe regarded his son gravely. " And what do I get if I win?"

" Fourpence a week for a year," said Timothy. " That's fair, isn't it?"

" I think so," answered his father with a thin smile. " I hope this is going to be a lesson for you. . . . Why do you want a pound?"

Timothy grinned. " I'll tell you after the game."

" Your move," said Doctor Merrinoe grimly.

It lasted slightly more than two hours, and proved to be quite a classic. At first, Doctor Merrinoe moved carelessly, then with more caution. He began to play with deathly concentration until a sudden stroke of brilliance, that should have given him the game, somehow cost him his queen.

Meanwhile, Timothy had taken to reading his novel between moves. Almost regretfully, he administered the *coup de grâce*, at the same time reaching the end of Chapter Seventeen.

" Timothy," said Doctor Merrinoe in a cracked voice, as he reached for his wallet. " How did you do it?"

" Just followed the pattern," replied the boy enigmatically.

There was a profound silence while Timothy pocketed the pound note. His father stared anxiously at this pint-sized Frankenstein's monster that was his own flesh and blood. " What are you going to do with the money?" he demanded.

" Buy a few things I need for some experiments."

" I see," said Doctor Merrinoe blindly.

Timothy yawned. " I think I'll go to bed now. . . . Thanks for the games, Dad. I hope you didn't mind losing."

" Not at all," grated his father. " It was a pleasure."

Mrs. Merrinoe, whose interest in television had fallen to zero from the moment Timothy began to win, watched her small, retreating son with awe. She noticed that the copy of *The Invisible Man* was tucked firmly under his arm.

When he had closed the door behind him, she pounced on her husband like a broody lioness. " What's happened to my little boy?" she demanded. " What have you done to him?"

" Nothing—nothing at all," he said helplessly. " I expect Peeping Tom taught him a few tricks, but they'll soon wear off."

" Wear off!" snapped Mary. " I should hope so—for your sake! If that electronic egg-timer's done any harm to Timothy, I'll—I'll—" She froze him with an angry glare. Doctor Merrinoe winced.

TIMOTHY spent a great deal of the weekend in his own room. The physicist discovered that a few more books had disappeared from his study, including one massive tome on wave mechanics. The thought of Timothy reading up wave mechanics was no longer ridiculous: it was terrifying. But he made no comment, thinking it wiser to await results.

He did not have to wait long. The storm broke on Monday evening. Returning home late, Doctor Merrinoe was confronted by an hysterical wife.

" Thank heaven you've arrived!" she sobbed. " I've been trying to ring you for the last hour. You've got to do something about Timothy quickly, before I go out of my mind."

" Timothy?" echoed Doctor Merrinoe nervously. " Where is he? Is he all right?"

"All right!" shrieked Mrs. Merrinoe. " You'll see if he's all right."

At that moment, the dining-room door opened and a pair of shoes walked down the hall. They were inhabited by an empty pair of stockings which invisibly supported a small boy's vacant suit.

" Hallo, Dad!" said Timothy cheerfully. " I wanted to give you a surprise."

Doctor Merrinoe cringed from the apparition. " Timothy!" he croaked. " Timothy! What have you done?"

" Rearranged my molecular structure," replied Timothy calmly, " and lowered my refractive index to zero."

" It's—it's—it's impossible!"

" You said that before, but—well, here I am. The man in the book did it, and so have I."

The sweat dripped from Doctor Merrinoe's forehead. " But, Timothy, listen. The book was only a story—fiction. It just couldn't happen."

" It has. Feel my hand." He prodded his father, not too gently, underneath the ribs. " Would you say that was fiction?"

Doctor Merrinoe coughed and sat down suddenly. Mrs. Merrinoe, having now reached breaking point, fainted gently into her husband's arms.

" Now see what you've done," he panted angrily. " We'd better get her

EXPERIENCE—3

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on to the sofa." As he struggled with his wife's limp form, Doctor Merrinoe was helped by a pair of invisible hands.

He settled her in a relaxed position, then turned pathetically to the vacant suit. "How—how did you——"

"The apparatus is in my room," said Timothy. Anticipating his father's next move, he added, "No, don't go there. You may get electrocuted, or turn invisible or something. From now on, my room will have to be private."

Doctor Merrinoe was about to lay down the law, but thought better of it. "All right, son," he said meekly. "But, Timothy—can you—can you change back?"

There was childish laughter. "I don't want to. This is fun. Besides, think what they'll say at school."

Doctor Merrinoe shuddered. He was thinking what the whole world would say. He was also thinking what the world might possibly do.

At that moment Mary opened her eyes. She looked as if she were getting ready to scream.

It was the last straw. Doctor Merrinoe panicked.

"Timothy, you've got to change back," he pleaded. "You've got to. It's not decent. It's——" He floundered, inwardly praying for spiritual guidance. How could he ever hope to control an invisible boy?

THEN suddenly Doctor Merrinoe was inspired. "I'll bet you five pounds," he said sadly, "that you can't become visible again."

"Done!" snapped Timothy. Suit, socks and shoes galvanized into action. A door opened and slammed, and the invisible boy bounded upstairs three at a time.

With an abject sigh, Doctor Merrinoe turned to his wife and patted her hand reassuringly.

"I'll divorce you," she snapped. "For extreme cruelty! You and that psychopathic brain!"

"Now, Mary," he soothed, "it's going to work out all right. We'll just have to watch him carefully for a while."

"Watch him carefully," she stormed. "When at any moment he might decide to turn us into a couple of white mice?"

"It's not so bad as that, dear. If you understood a little physics, you would know——"

But at that moment a mysterious humming started upstairs. It sounded like a muffled hornet. Presently it changed into a high-pitched whirring that died slowly into silence. Then there was a sound like breaking glass.

A few moments later, Timothy came back into the room, wearing a benign smile on his chubby, substantial face. Doctor Merrinoe mopped his forehead. Then he caught Timothy's eye and hastily took out his wallet.

"Now Timothy"—he waved the notes slowly in front of the boy's nose—"I want you to promise that you'll never make anyone or anything invisible with that—that apparatus. In fact, it would be a good thing if we took it to pieces tonight. Of course, I'll just take a few notes for the sake of a scientific record, but——"

"Nobody goes into my room," interrupted Timothy decisively. His hand closed round the notes. "Now that I've done it once, I'm beginning to lose interest. I only worked on it because you said it was impossible. . . . But I've just discovered a far more interesting problem."

"What's that?" squeaked Doctor Merrinoe in top falsetto.

"Antigravity," said Timothy with a happy smile.

Doctor Merrinoe experienced an odd darkness descending. The room began to sway slightly and he had a feeling that presently the floor would rise up and hit him.

From far, far away, he heard Timothy eagerly explaining why the general theory of relativity was just a little unsound. But Doctor Merrinoe was more concerned with the practical side. He was already working out how much it would cost him not to go to the moon. THE END

"Have you been waiting long, darling?"

Angel's ransom

Continued from page 15

was waiting on a shadowed bench only a few yards from where Marian had parted from Blake. "Very amusing indeed! Did you enjoy the way I scrambled for cover after you persuaded your obliging compatriot to turn his searchlight on me?"

"I didn't persuade him. I didn't even know he was going to do it."

"It doesn't matter." His manner changed to mock humility. "I cannot complain. I should be grateful that you are willing to soil your clean English hands with a deception." He came up off the bench in a bound, his temper changing again, instantaneously. Standing, he came barely to her shoulder. "What did you learn? When do they intend to leave?"

"Tomorrow. Today, I mean. In the morning."

"Where are they off to?"

"He wouldn't say."

"When will Farr come aboard?"

"Some time before they sail. He couldn't be more definite."

"You're useless. Useless! You accomplished nothing. Have you even an excuse to go back aboard?"

"I left my bag. But if I'm so useless to you, I won't bother to go back after it. Good night!"

"You must come." He seized her wrist as she turned angrily away. "I've explained how important it is that you should be there. I demand it."

She said frostily: "You're paying me to follow your instructions, not for the privilege of putting your hands on me."

He released her. With an enormous effort, he said: "Forgive me. I forgot myself. My instructions are that you will accompany me to the yacht tomorrow morning."

"Very well. Do you want anything more of me now?"

"No."

"Then, if you don't mind, I'm going to bed. Good night."

He stood aside to let her pass, and she was conscious of the impact of his silent hatred as she walked away. Little Monsieur Herriot had an ego that was far too large for his small body.

She could not decide whether he or Blake provoked her more. Two more dissimilar men could hardly be imagined; jeering, spiteful, angry little Monsieur Herriot, with his fluent and wholly unnatural copybook English; and big, sun-tanned, good-natured Blake, easy of speech, easy of manner, unreserved in his loyalties, uncomplicated in his way of thought.

The fact that he had accepted her in good faith only sharpened her irritation with the Englishman. It was his own fault that he was so easily deceived.

She did not realize until some time afterwards how much of her feeling about Blake was pique. Men were ordinarily more responsive to her than he had been. . . .

César, the Angel's Monegasque steward, found the handbag in the morning. He discreetly left his find on the chart table in the yacht's wheelhouse. The captain would be certain to see it there without having his attention called to it.

Blake smiled at César's silent tactfulness when he saw the bag. He went through it for some clue to the girl's address, and found that it contained nothing of apparent importance or great value. He tossed it back on the chart table.

EXPERIENCE—4

There is the greatest benefit in making a few failures early in life.

T. H. Huxley

It was a requirement of the Angel's owner that the cruiser be always in readiness to put to sea. Freddy Farr was essentially a landsman, unable to understand that more than a few minutes were necessary to pump twenty tons of fuel and water and load provisions. Delay made him restless.

In the years that he had been Freddy's skipper, Blake had learned to keep tanks topped up at all times, refrigerators filled with food, stores in good supply. So prepared, he had a 2,500-mile cruising range.

Freddy's whim this time, stimulated by a run of bad luck at the casino and the uneasy conviction that the baroness's lawyers were closing in on the Angel, was to flee for parts unknown.

The Angel had already lingered a day or two longer in port than was safe, in view of the baroness's announced intention, but Freddy would rather lose the yacht than sail without company. From the baggage that had come aboard that morning, Blake guessed that he would have three or four passengers.

HE was right. Shortly before noon a *fiacre* came clattering along the Quai du Commerce and turned out on to the jetty. Freddy, tasselled whip in hand, held the reins on the high driver's seat.

Nearing the Angel's mooring, he spanked the horse into a trot and brought the carriage wheeling up in style to where Blake stood at the gangplank.

"Morning, Jim." Freddy saluted sadly with the whip. "Got a dime for a cup of coffee?"

"Broke again?" Blake asked.

"Gutted like a fish. Lost everything but my helpers. Meet the mob." Freddy used the tassel of his whip to tickle the nose of a blonde girl asleep in the body of the *fiacre*. "Wake up, doll. Meet your genial host, Skipper Blake. This one is Valentina, Jim. She speaks Polish."

The blonde girl's eyes opened lazily. She said: "Good morning, Captain." Her voice was husky, her English only faintly accented. Blake was uncomfortably aware that the too-wise, honey-coloured eyes were taking his measure.

Freddy said: "The thing she's using for a pillow is Bruno." Valentina's head rested on the shoulder of a good-looking, olive-skinned young man in evening clothes who snored gently through a classically handsome nose. "Or is it Beppo?" He giggled witlessly.

"Bruno di Lucca." The name was supplied, somewhat snappishly, by a woman sitting on the other side of the snorer. "Please, Freddy, don't be giggly at this hour of the morning. I am Laura di Lucca, Captain. How do you do?"

Blake acknowledged the introduction, wondering only momentarily if Laura di Lucca were the handsome Italian's wife or his mother. He decided she was his wife—they resembled each other too little to be related by blood.

Laura di Lucca was twice her husband's age, well-dressed and expensively jewelled, and wore make-up that would have been kinder to her under the shaded lamps of Monte Carlo's gambling tables than in bright morning sunlight. She was not happy about Valentina's head on her husband's shoulder, and showed it in the elaborate way she ignored the blonde girl's existence.

"This one is George," Freddy said. "Treat him with respect, Jim. Gentleman of the press! He's writing me up as a sympathetic character for the tabloids: 'Fun-loving Fred, the Lovable Playboy.'"

The man in question, the fourth occupant of the carriage, lifted his hand to Blake. "Samson," he said crisply. "How do you do, Captain? I'm not one of your passengers. I came this far for the fresh air."

George Samson was in his thirties, bull-necked and going bald, with a plain, pugnacious face that matched his manner. He looked like a man who would decline to take orders, or favours, from anyone.

Freddy had had a hard night's drinking, and was still feeling the effects. He climbed unsteadily down from the driver's seat to offer his doubtful assistance in helping Valentina from the carriage. "Come on, doll," he said. "Come and meet the Angel."

Valentina wore a sheathlike evening gown. Bruno, awake now and yawning, did not try to hide his frank admiration of the blonde girl's provocative figure, and ignored his wife completely as he followed Valentina and Freddy aboard the cruiser. It was Blake who helped Laura di Lucca from the carriage and handed her along to César, waiting at the head of the gangplank to sort the guests into their proper cabins.

When they and their host had disappeared from sight, George Samson

said: "'You're going to have hair-pulling this trip, Captain. Laura is jealous about her husband. What's the truth about the baroness? Did Freddy really give her the yacht?"

"I doubt it."

"I wondered how generous he might be in a weak moment. He handed that blonde at least half a million francs to throw away at *chemin de fer* last night."

"That won't break him."

"What's he worth nowadays? In round figures?"

"I don't know, I'm in charge of his yacht, not his accounts."

"Where are you taking it this trip?"

"I can't say."

Samson's manner changed. Open truculence was in his voice when he said: "I'm a reporter, Captain Blake. I'm after a story. I want to give Freddy sympathetic treatment if I can, but I haven't *got* to be nice about him."

Blake was annoyed. He said: "If that's a threat, you're wasting your ammunition. I told you I run this yacht for him. I'm not his press agent, and I don't give a solitary damn whether you make him look sympathetic or hold him up as a horrible example. It means nothing to me at all. Is that clear enough? I can't tell you where we're going because I don't know. I don't think Freddy knows. We're just disappearing from sight, to keep the baroness guessing."

The reporter climbed to the driver's seat of the *fiacre* and took up the reins. He said: "You're too clever to listen, but I'll give you a free tip just the same. The baroness was an amateur. That blonde you've got aboard could snatch the yacht right from under your nose and Freddy's before you even knew what was happening. You may not be drawing a salary from him for long."

"You know her well?"

"I don't know her at all—but I know her type," Samson said. "*Bon voyage*, Captain. . . ."

THE Angel's guests were already asleep. They slept soundly through the final sailing preparations and also through an argument which César got into with an idler on the jetty. Blake intervened to quiet the steward, who could not argue without shouting.

César's opponent was a round man with a face like a rabbit's. He wore better clothes than most quayside loiterers, and he spoke with an air of lofty authority that stung César like a barb.

"You will leave the port or you will not leave the port, as you see fit," he announced from the jetty. "There is nothing to prevent your going. The ship will merely be fined the next time it returns, for each member of the crew who has failed to obtain a proper *permis* before leaving. Ask Jules there. He lost a job because of the fine only last week."

Jules was a huge man with the weathered skin and muscular hands of a seafarer. He joined the argument, giving confirmation of the lost job in a Provençal twang.

"What are the *permis* for?" Blake asked. "I haven't heard about them."

Jules did not know. Nor did the rabbit-faced man, although he thought that the regulation was a relatively new one. Both men were equally positive that members of the crews of vessels of foreign registry leaving the port of Monaco were now required individually to get clearance from the port authorities.

"Pay no attention to these Frenchmen," César said obstinately.

Blake hesitated. He was scrupulous about observing port regulations. The only question in his mind was whether to send a man to the Sûreté Publique, a ten-minute walk by way of the Quai du Commerce, to inquire further about the nature of the *permis*, or to send the entire crew at once and so make the delay as short as possible, if, as Jules and the rabbit-faced man claimed, individual clearance for each man was necessary.

He decided to send off the whole crew.

Left alone except for his sleeping

passengers, he was too preoccupied to notice that Jules and the rabbit-faced man had taken up positions conveniently near the lines that tied the cruiser's stern to the jetty. . . .

Marian did not note the significance of the departure of the Angel's crew until the little group of men had passed below the point where she and Herriot watched from the parapet of the Chemin des Pêcheurs. Herriot made a sound of satisfaction as he saw them go by.

"Did you arrange for that?" Marian asked.

"Of course." He was tensely impatient of her question.

"Why?"

"Because they would not have let me aboard, even in your company, without Blake's permission, and I do not intend to ask his permission."

Herriot pushed Marian ahead of him

EXPERIENCE—5

One thorn of experience is worth a whole wilderness of warning.

J. R. Lowell

and followed at her heels, crowding her impatiently until they stood together on the Angel's deck.

Blake found them there when he came up the engine-room ladder. Marian, playing her humiliating rôle, said: "This is my—friend, Mr. Herriot. We came for my bag."

"You got here just in time," Blake said. "I'm casting off as soon as my crew comes aboard. How's the ankle?"

"Much better, thank you." She did not meet his eyes.

"Where is the bag?" Herriot asked.

The little man's question was unexpectedly peremptory. Blake said: "In the wheelhouse. I'll get it."

"We'd like to go with you. Wouldn't we, my dear?"

Marian's "Yes" was wooden, emotionless.

Puzzled, aware of an undercurrent he did not understand, Blake led the way. The bag was where he had left it. He stepped aside on the bridge wing to let Marian enter the wheelhouse ahead of him, and was waiting for Herriot to precede him as well when the little man took a heavy automatic from his coat and levelled it at Blake's belt buckle.

"You first, Captain," he said tautly. "Stand over by the girl and keep quiet."

Blake's mind refused for a moment to recognize the reality of what was happening. The gun was over-large in Herriot's small hand, like a clumsy toy in the hand of a child. But Herriot did not hold it clumsily, and his expression was not childlike.

Blake hesitated, then followed Marian into the wheelhouse. His perplexity was increased by the expression of shocked incredulity on her face at the sight of the pistol.

Herriot stood in the doorway, keeping his distance. Blake said: "What is all this? What are you after?"

"You'll learn. Be quiet." Herriot, without moving his eyes or shifting the unwavering muzzle of the automatic from its steady aim at Blake, seemed to be listening intently for something.

Blake could hear nothing except the steady putter of the auxiliaries he had started, could see nothing from where he stood except the expanse of the harbour, the cruiser's foredeck, a part of the foredeck of the sailing boat moored alongside, and the Angel's twin anchor chains plunging rigidly out and down from her bow.

He knew that the yacht's stern lines had been cast off when the anchor chains suddenly dropped, losing their strain, and the bows of the sailing boat alongside drifted slowly backwards from his line of sight.

He said again, more demandingly: "What *is* this?"

"Be quiet." The gun muzzle lifted to emphasize the order.

Marian's paralysis of will broke at the slight movement. She said helplessly: "I—I don't understand."

"Of course you don't understand!" Herriot did not take his eyes from Blake. His complete concentration of attention on the Englishman while he spoke to the girl emphasized the contempt in his words. "You were never intended to understand, only to serve a purpose. You have done it admirably."

"But—but what are we doing here?"

Herriot laughed softly. He said: "I am here to persuade Mr. Freddy Farr that he has more money than he needs. You are here because you were necessary to my plans, and you cannot be left behind to talk. Now be quiet."

He still had not looked at Marian, and his intense concentration of attention on Blake at the same time as he listened for whatever sound or signal he was expecting from outside the wheelhouse kept him from the realization that she was about to scream; until she took a deep shuddering breath.

Herriot moved with amazing speed then, reaching to shut the door that would muffle both scream and shot as he swung the pistol towards her.

But his move to close the door before he pulled the trigger had given Blake the chance to clap his hand over Marian's mouth and pinion her arms.

"Look at it," Blake said harshly. "That's a gun he has in his hand. If he squeezes his finger you'll be killed. Do what he says."

Herriot said thinly: "If your employer is as sensible as you are, Captain, we will all avoid a great deal of difficulty." He reached behind him to open the door.

Then Blake heard the grind and grumble of the diesels starting up in the engine-room. First one, then the other, turned over, caught, fired and settled down to its steady mutter.

HE felt a terrible sinking of the heart as he listened to the familiar pulse of power through the cruiser's hull.

Ashore, Freddy Farr and his guests were no concern of Blake's. Afloat, they were in his charge; the guarantee of their safety was his duty. The Angel's passengers were his to defend against a man who had already shown his willingness to kill at the smallest evidence of opposition.

Herriot shifted his position in the doorway to bring the wheel more directly under the threat of his weapon. "Take the controls, Captain," Herriot said. "We are about to put to sea, according to programme."

"I can't put to sea without a crew," Blake said. "It's out of the question. And shooting me won't weigh anchor."

"You have a crew." Herriot nodded at the foredeck, still without moving his watchful eyes.

Jules, the big Provençal of the *permis*, was at the bow winch manoeuvring the Angel away from the jetty on her anchor chains. It was skilfully done, better than the Angel's own deckhands could have managed it. Jules dogged the chains efficiently, shut off the winch, and came swinging up the wheelhouse ladder to the bridge wing.

"All secure," he said to Herriot. "We had better get under way. As soon as those idiots find out they've been fooled, they'll be back."

"Where's Roche?"

"Standing by for trouble below. The passengers are all sleeping like babies, so far."

Jules squeezed by Herriot in the doorway. Without coming into the line of fire, he pulled out the plug of the radio-telephone handset and stuffed handset, connecting wire and plug into his pocket.

"I'll clean up the rest when we're out of the harbour," he said tensely. "Let's go, I'm nervous."

"We are all nervous." Herriot gestured with the automatic. "But we are going to be sensible, I think." The gun steadied on Blake again. "Take the wheel, Captain."

As Blake hesitated, Jules emphasized Herriot's order with a shove. The big sailor was a powerful man, and the unexpected shove slammed Blake against the wheel.

Without animosity, Jules said: "Look sharp when you're given an order, Captain, and you won't get hurt. Now let's see how you work those controls. No tricks. I know a few myself."

Blake accepted the inevitable. He put both engines at slow ahead and swung the cruiser's bows towards the spire of the church of Sainte Devote, at the farthest reach of the harbour. The Angel moved out towards open water.

The passage between the twin jetties that formed the harbour breakwater was a good hundred yards wide, but the tumbled concrete blocks that

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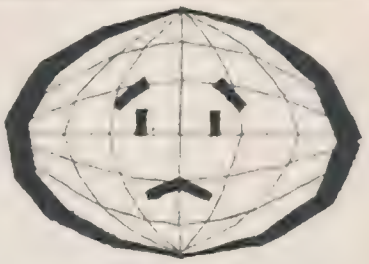

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formed the jetties' foundations made navigation within ten or fifteen yards of the end of either jetty hazardous for any craft larger than a rowing boat.

The trap in which he found himself was a tight one. Jules carried a pistol pushed into the waist of his dungarees, but even without it he would be formidable to handle. He stood now at Blake's shoulder, watching the operation of the controls with close interest. Herriot had come into the wheelhouse to stand guard somewhere behind Jules, and Marian had retreated into a corner where she stood watching Blake, tensely, expectantly.

He thought bitterly: *Don't look to me for heroics, girl. I didn't get us into this.*

But he could not bring himself to focus his anger against her. The surge of slow rage inside him was for Herriot; sneering, arrogant, contemptuous little Herriot, with his well-planned trap and the big gun that made him master.

Blake's bitterness and frustration came to a boil when he brought the cruiser's bows around to put her at the passage between the jetties; and he saw in that same moment the Angel's way of escape.

He opened both engines up to cruising speed, not hurrying, not thinking beyond the immediate movements of his hands, knowing that his nerve would fail if he thought ahead. They were running fair at the harbour mouth now, well clear of its hidden teeth, heading for the open sea that sparkled beyond the breakwater.

Marian still watched him from her corner. He cried silently at her, *It's all I can do!* and spun the wheel to starboard, putting the yacht squarely at the end of the south jetty and the man-made reef that would rip her bottom out.

Jules's reactions were swift, for a big man. But instead of putting his full strength and weight on the wheel, he clubbed Blake's head with one fist while he fought to swing the wheel back with his other hand.

Blake accepted the punishment and held to the spokes, grimly keeping his head down to take Jules's blows on his skull, willing the Angel to her destruction while he waited for the crash of Herriot's pistol and the tearing shock of a bullet. Even in his fear of death there came the triumphant thought: *You're beaten, little man! You're beaten!*

Then a shattering blow over the kidneys loosened his muscles and sent him sagging to his knees, clawing ineffectually at the wheel that spun away from him. Another calculated, agonizing blow, and a third, sprawled him on the deck, only dimly conscious of Herriot standing over him with the automatic clubbed to strike again.

Then the Angel was heeling, sharply, more sharply still as the drum of the engines changed. There was a moment of taut uncertainty, and then Jules's deep, relieved growl: "We're clear."

The Angel's motion changed as she accepted the rolling movement of the open sea. The first rocking plunge of her bow took Blake down with it, into oblivion. . . .

HE opened his eyes to find himself with his back against a bulkhead, looking out through the open doorway of the wheelhouse. The Angel was running smoothly eastwards at cruising speed, angling away from the land, but still only a few hundred yards off shore. Jules stood at the wheel and Herriot was nowhere in sight.

Marian said anxiously: "Are you all right?" She was kneeling at his side.

"I'll survive." With an effort, Blake shifted to rest his back against the bulkhead. "Would you mind telling me what this is all about? How did you get mixed up in it?"

Marian looked at Jules's broad shoulders, then decided to ignore his presence.

"I've been a fool," she said. "He—Herriot, I mean—moved into my *pension* a few days after I did, and he saw me reading the newspaper story about the baroness's suit for the yacht. We talked about it afterwards. He said that a writ of attachment had been issued, and when I asked him how he knew, he said it was his job to serve it.

"He showed me a legal paper he had, and said he needed an English-speaking witness to the serving. He offered me twenty-five thousand francs to help him. I—I needed the money, to get me back to Paris and keep me going until I found a job."

Blake said: "But I still don't understand what your part in it was. What was the ankle business for last night?"

"He knew you were planning to sail, but not when. Herriot wanted me to find out and arrange some way to get him aboard." Her face was suddenly pink.

"I see. But why did he say he had to get aboard? He could serve a paper on Freddy anywhere in Monaco."

"He had to—he *said* he had to—serve you both at the same time, you and Mr. Farr, so that one of you couldn't warn the other to take the yacht away. I was to testify in court that you'd been served."

"Very neat! I can see how you might be taken in."

Jules was paying no attention to them. Their English was clearly too rapid for him to understand what they were saying. Marian gestured cautiously at the open door of the wheelhouse, making swimming gestures toward the shore, by then several hundred yards away.

"I can do it," she said. "I've swum farther than that lots of times. If you can think of a way to occupy his attention——"

Blake said shortly: "You wouldn't last a minute in the water even if I could. They'd run you down inside a few seconds."

"But we've got to do *something*. We can't just sit around here and wait to find out what they're going to do with us."

"I don't think we'll have to wait very long," Blake said. "Herriot doesn't strike me as the kind of man who will waste time."

The bridge telephone rang a few moments later. Blake got to his feet to take the call, not thinking until Jules, reaching for the phone, growled: "Get away."

His end of the conversation was: "Yes . . . yes . . . no . . . yes . . . right." Then, instead of hanging the receiver back on its hook, he pulled it loose from the wire with a jerk, and put it in his pocket with the radio-telephone handset he had appropriated earlier. Then he brought the Angel's bows round into the wind, cut the engines to let the yacht drift, and motioned the two captives ahead of him out of the wheelhouse with the pistol, which he now took from his belt for the first time.

"Down to the saloon," he said curtly.

The Angel lay almost half a mile off Monte Carlo beach. Even at that distance the clearness of the Mediterranean air made figures clearly visible in the waves and beneath the brightly striped umbrellas blooming on the sand. . . .

FREDDY FARR'S tastes were apparent in the Angel's interior furnishings. The saloon was decorated like a drawing-room. Its carpeting was thick, its lighting discreetly indirect, its polished walnut panelling flawless. A panel that pretended to be a bookcase stood aside to reveal a heavily stocked cocktail bar.

Herriot stood at the bookcase-bar idly sliding the panel open and shut. He still held the automatic, but he seemed too preoccupied to pay any attention to the group of half-dressed people held under guard at the other end of the saloon by Jules's rabbit-faced companion of the jetty.

Freddy, bleary-eyed and in a rumpled dressing-gown, seemed only half-awake, unable to grasp fully what was going on. Valentina was as cool and immaculate as ever in a white négligée, and Laura di Lucca, looking badly frightened, was in a swirl of pink lace. Bruno was scowling, a brown-skinned, bare-chested, handsomely muscled Roman gladiator, wearing only pyjama trousers.

Herriot continued to ignore the captives until Blake and Marian joined the group. He looked up then.

"Now that we are all together," he said, "I'll take your keys, Captain. Throw them to Jules."

Blake did as he was told. Jules disappeared down the companionway leading to the cabins.

"I am glad to see that your lesson in co-operation has taken effect." Herriot grinned wolfishly. "Who else holds ship's keys?"

"Only Mr. Farr," Blake said.

"Mr. Farr's keys will be taken care of. You are sure there are no others aboard?"

"Quite sure."

The pointing pistol moved on to Valentina. "Who are you?"

Valentina's wise, honey-coloured eyes studied the little gunman briefly. What she saw made her answer without fear, but promptly. "Valentina Walowska," she said.

"Polish?"

"Yes."

"Husband? Family?"

"I have none."

"How do you live?"

She shrugged.

"Jim," Freddy pleaded. "Why don't you do something? Throw these hooligans overboard. Call the cops."

"The captain has already tried to do something of the sort, at some cost to himself," Herriot said. "Please be quiet." The menacing pointer moved on to Bruno. "Who are you?"

With infinite and deliberate insolence, Bruno said: "That is not your business."

The pointing pistol held steady, levelled at Bruno's brown chest. Herriot's expression did not change. Blake was aware that Marian, standing at his side, had stopped breathing.

In the dead silence, broken only by the faint putter of the yacht's idling engines, Laura di Lucca said hurriedly: "Please. I'll answer your questions. He's my husband, Bruno di Lucca. I am Laura di Lucca."

Herriot made her a small ironic bow. "You are both Italian? You have relatives?"

"Bruno has relatives in Rome. I have only—him."

"How do you live? Whose money supports you?"

"I have a private income. My first husband left it to me when he died."

"So your second husband could spend it."

A faint colour came to Laura di Lucca's cheeks. She said nothing. Herriot made an impatient gesture that dismissed her and Bruno.

"Never mind," he said. "Your little affairs are of no importance." The pointer came to bear on Freddy at last. "Mr. Farr, you look tired. Please sit down. Over here—at the writing-desk."

Now it comes, Blake thought.

Freddy did not move until Roche, the little rabbit-faced man, took him by the arm, swinging him into the chair that Herriot held ready with mock consideration. Herriot took a sheet of stationery from a pigeonhole of the desk and looked at its letterhead.

"'Aboard the Angel,'" he said. "A good beginning." He put the paper on the desk in front of Freddy. "Add the date, please. Then write as I tell you."

Freddy reached obediently, mechanically, for a pen.

Herriot said: "The letter is to Alain Krug, Banque Suisse, Genève." He began to dictate slowly: "'Dear Alain. The bearer of this note, Louis Roche, is my partner in a project to break the bank at Monte Carlo. Before you start making noises like a banker, I will remind you that it is my own money I am playing with. Louis has a system that is unbeatable, if enough cash is put into it. That is all you have to know about it except that I am—I mean you are—putting up the cash.' New paragraph." Herriot paused.

Blake shifted his feet to hold his

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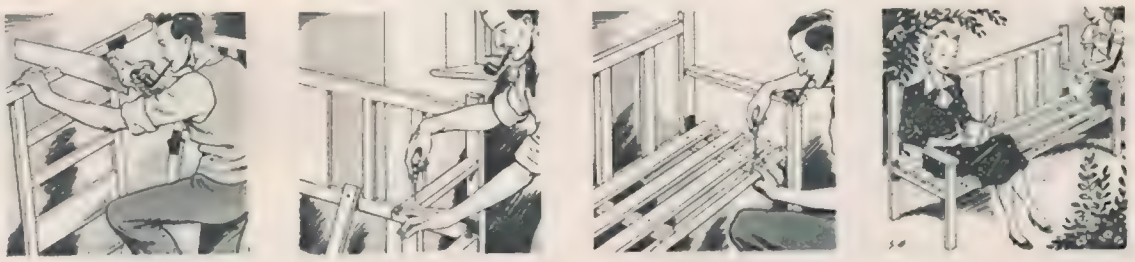
Each week, JOHN BULL pays five guineas for the best original and practical "do-it-yourself" home hint from a reader. Those selected are illustrated by Stanley Herbert. Send your hints to: "Make Yourself At Home," JOHN BULL, 189 High Holborn, London, W.C.1.



WE had no further use for an old wooden bedstead, so I turned it into an attractive garden seat. I used the complete footboard as the back, and sawed two two-foot high pieces from the headboard to make supports for the armrests and seat. I used an angle-iron, cut to size and drilled, as the long front support, but wood would do equally well and is easier to handle. The seat was made from battens taken from the remainder of the headboard. —*C. Liston, Erdington, Birmingham,* 24.

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balance. He was beginning to feel a new and sobering respect for Herriot. The letter the little man was dictating was exactly the kind of letter Freddy wrote, even to its typically peremptory refusal to be questioned.

Herriot went on: "The new paragraph: 'Please satisfy yourself, as if I didn't know you will, that Louis is not a crook or a phony, by double-checking his passport, identification papers and birthmarks. Then cash the cheque I have given him and start him back this way. If you feel like sending somebody along with him to see that the money gets here safely, that is up to you, but keep your nose out of the system or I will take my business somewhere else.' "

Freddy's pen scratched and stopped.

Herriot said: "Another paragraph. 'As you may have seen by the yellow press, a certain baroness is trying to grab the Angel. I am going to have to disappear with the boat for a while, but do not worry about Louis and the money after he gets here. We have made our own arrangements.' Add 'All the best' and sign it 'Freddy.' "

Dully, Freddy finished the letter. Herriot took it, folded it, slipped it into an envelope, and gave the envelope to Roche. Then he produced from his pocket another envelope containing several pale blue blank cheques, with a photographic copy of another. He put one of the blanks and the copy on the desk in front of Freddy.

"So you may understand that a slip of the pen will serve no purpose, Mr. Farr," Herriot said smoothly, pointing to the photo-copy, "that is the signature which the Banque Suisse accepts against your dollar balance with them. I have been careful to verify it. Make out a cheque to Louis Roche, under today's date. The amount will be one hundred thousand dollars."

SOMEBODY released a long-held breath. There was no other sound but the faint purr of the idling engines.

Freddy looked thoughtfully at the two slips of paper for a long moment. "A hundred grand," he said at last. "That's a nice round sum. Suppose I do write the cheque. Then what?"

"Roche will go ashore with it and the letter you have written, take the train to Nice, and fly from there to Geneva. I shall allow him a day for the journey, a day to transact his business, and a day to return.

"During that time the Angel will disappear from sight, as you have announced that she would disappear. At the end of three days we shall return here to rendezvous with Roche, pick up the money, and leave the yacht. You will have lost a small proportion of your fortune to us instead of to the roulette wheel, and suffered no other harm—provided, of course, that you and your guests behave yourselves."

"Very tricky." Freddy was wide awake now. "There's a hole in it though. How do you know your boy is going to come back with the money? What's to keep him from pulling out for South America as soon as he gets his hands on it?"

"You underestimate me, Mr. Farr." Herriot gave his wolfish grin. "Your banker friend Krug—he has been investigated as thoroughly as you have, believe me—is not a man to permit a hundred thousand good American dollars to travel without an escort, particularly since you have invited him to keep an eye on it. It will arrive safely enough. Make out the cheque."

Freddy frowned. He said: "I'm not as sure about it as you are. I've got to have a guarantee. If he double-crosses you, do you double-cross me?"

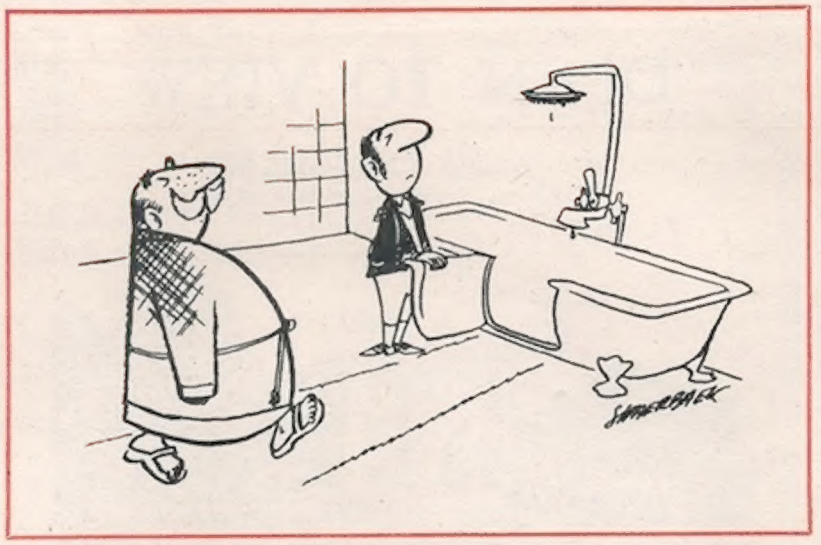
"You are in no position to make demands, Mr. Farr." Herriot was no longer grinning. "I do not bargain. Make out the cheque."

Freddy shook his head, laid down the pen he had been holding, and folded his hands on the desk in a gesture of finality.

"No dice!" he said.

To be continued next week

David Dodge's story will be published by Michael Joseph as a book called "Ransom Of The Angel." It will cost 12s. 6d.



Up in the world

Continued from page 19

hints about winning an audience. It was no use. I left the dressing-room and went out into the street and started running. I ran round the streets of Islington, not knowing quite what I was doing. I must have covered three miles when eventually I got back to the theatre.

Onstage I was vaguely aware of signals from the wings. They were trying to tell me that my time was up, but I didn't know how to finish the act. I kept going from one routine to another, and to make things worse I landed so heavily on a prop settee that it collapsed, broken. It won a laugh I hadn't intended.

Nobody looked happy when I came off, and the stage manager was put out about the seventeen minutes I had taken.

During the break between houses, I could hear several other débutants being told that they had not made the grade, and I waited for the manager to call at my dressing-room door. He came, and passed on. But as I went out for the second house, the stage manager reminded me forcefully that I had better get down my time.

Somehow I managed to reduce it to fourteen minutes. By the Thursday night I had the twelve-minute act well under control, and I was getting laughs where and when I intended.

On the Friday came real encouragement; I was offered two dates, the Portsmouth Coliseum and the Grand Theatre, Basingstoke. In the month before they came up, I rehearsed so much I could have done the act backwards.

Yet for all that the first house at Portsmouth went badly. Between houses the manager sent for me, offered me a cigarette, and said that the bill was rather crowded. Would I mind going on first house only for the rest of the week? I sensed that he had noticed the sparse laughs I had raised and was being rather charitable. He could have paid me off altogether.

Next morning I was in the theatre at eight o'clock. While the cleaners worked in the auditorium I rehearsed alone on the stage. I went through the act, doing everything over and over again, just as once I had heard Reginald Foort repeating the same piece on the organ at the Regal, Marble Arch, and presently a high-pitched voice came from the stalls.

A middle-aged cleaner with grey hair and rolled-up sleeves stood in the front aisle, and she was calling: "Why don't you take a rest, dear?" She looked most concerned. But I kept on practising.

That night I asked Freddie Bamberger, one of the most experienced people in the business who was also in the show, to tell me what he honestly thought of my act.

His reply surprised me. "My advice wouldn't do you any good," he said. "If you've got confidence in yourself everything will be all right."

I kept thinking of his words every time I went on at Basingstoke, and I mesmerized myself into some sort of assurance. It seemed to work. At any rate, the audience reaction was better. By the end of the week I considered I'd done fairly well, yet no more work was offered.

I took up the old trail again, round the agents' offices. If I started each morning with some buoyancy, it was usually knocked out of me by late afternoon. Nobody was interested, and in such a highly competitive line as show business it surprised me that so many agents were unwilling even to give me an audition.

London seemed an inhospitable place and the West End the hardest part of it. I eked out an existence during these weeks; then came ten weeks' employment, in a little touring revue run by Will Hammer called *New Names Make News*. We did the number two and three theatres, and I had two spots and a part in a sketch, which meant that I had to enlarge my repertoire quite a bit.

While we were at Brighton, Albert Rose, the manager of the Grand Theatre, booked me for his Christmas pantomime, and other dates began to accumulate. I set out on what appeared to be the start of something big, with weeks at Blackburn, Harrogate, Hanley and Glasgow before the pantomime engagement, but this sudden whirlwind almost did for me right away.

During the first house at the Grand Theatre, Blackburn, I made about as much impact as a backstage mouse. Two people in the stalls clapped as I went off, probably out of force of habit, and I could hear my own footfalls. The manager, a plump, normally jovial fellow called Will Murray, seemed upset. He met me offstage and said: "I'm sorry, Norman. They don't go for that stuff here." Shaken, I asked what he thought I should do.

"Give them something entirely different," he said.

"There's nothing else I *can* do," I admitted.

"I'm sorry. I'll have to take you off." He started to walk away, then turned and urged: "Why not go up to the dressing-room and think it over? Find something else and I'll give you another go second house."

It was a generous gesture. Yet I had no alternative material and I was baffled about that first-house response. The thought kept racing through my mind: *you've been fired. You have nothing to lose by going on again.*

Anxiously I tried to think of a fresh line. Once, I remembered, someone had said that they preferred it faster in the north. It was a forbidding challenge. I pulled out my suitcase to begin packing.

As I rummaged through the stuff, sorting it out, I came across two pieces of music. Frank Sinatra numbers titled "Nancy - With The Laughing Face" and "Some Other Time." I was running downstairs as soon as the idea hit me. What was wrong with singing?

I took the stairs three at a time and asked the pianist to play the tunes for my second-house act. I told the stage manager what I intended to do, then went back to the dressing-room and changed from my tight-fitting rig into a lounge suit.

Meanwhile, Murray had been telephoned in some alarm with the news, and he ordered that I should open the second half of the show, which suggested he was no less sceptical than his informant about the outcome of my plan. Still, it wasn't the first time I'd appeared in this trapdoor spot, vying with the tramp of feet from the bars.

The result surprised me more than anyone. Before the week ended I was getting requests for songs from the audience. I knew no more, so I couldn't oblige. But the singing gave me a start with the audience and I took advantage by speeding up the rest of the act. I was learning.

Later, in Glasgow, I was fearful of what might happen in this notorious graveyard of English comedians, and I worked so hard at rehearsals, polishing the act, that I lost half a stone in a week, coming down from featherweight to bantamweight.

Now the bookings were rolling in. One thing led to another. The "pop" boom was just beginning, and I was asked to become a singer and turned down the offer. I appeared at the De Luxe Theatre, Hastings, and the audience wouldn't let me leave the stage.

I could hardly believe it. I was now in the £20-a-week class, and this was my pay for the run of *Robinson Crusoe* at Brighton with Renee Houston and Donald Stewart. They treated me as if I were important from the start, and even when things went incredibly well for me in the show, they behaved the same.

A fortnight after the pantomime ended I went back into straight variety at the same theatre, topping the bill at £45 a week. Now the future was really opening up.

One night during the pantomime a bustling impresario named Bert Montague came up to congratulate me on my performance and to offer me a part in a touring revue he was preparing, *Let's Make Hay*.

I readily agreed to sign up with him under sole contract, and the immediate prospect of fifteen weeks in *Let's Make Hay* at £45 a week gave me such a feeling of wealth that I bought a 1937 Morgan, a scarlet four-wheeler. It was my first motor-car, and it gave me a feeling of importance.

In show business it is easy to get so bound up with one's career that everything else goes by the board. Ever since I had left the army I had dropped all my other interests, including sport, and taken up no new ones. The only thing that mattered was "the business."

During rehearsals for *Let's Make Hay* I was preoccupied with my part to the exclusion of everything. I wasn't very sociable. Yet several times I kept catching the eye of a slim and pretty girl in the chorus with brown hair, fine features and a compelling, warm smile. When the show began its run we would exchange a formal nod occasionally.

I shared a dressing-room with Charlie Cameron, one of whose "props" was a glass of beer, though in fact it was burnt sugar and water. This had to be carried onstage during his act by one of the chorus, the girl who had caught my eye. Every night she would call at the dressing-room to collect it, but we never got beyond the "hallo" and "goodbye" stage until one night when we found Charlie had forgotten to mix the "beer," and she had to wait while I did it for him.

We joked about Charlie's forgetfulness, and after that we talked a little more, though I was so shyly tongue-tied that the leads always came from her. It took me another three or four days to learn that her name was Freda

EXPERIENCE—6

Our experience is composed rather of illusions lost than of wisdom acquired.

Joseph Roux

Simpson and that she came from Bournemouth.

On our first morning in Derby I was practising the clarinet in the dressing-room when Freda, who had been rehearsing onstage, put her head round the door and asked: "What do you think of my new shoes?" It was as good a way as any of breaking down my shyness, even if it was a bit corny. I said I liked them, and I couldn't find anything more to add.

"Why don't you stop rehearsing sometimes and take a break?"

"No," I said. "I've got to work hard."

"It doesn't take long to have a coffee," she said.

"With you?"

She nodded. We went out to a coffee shop down the street. Even Derby in the rain can be a romantic place. We went out for coffee every morning afterwards, and when the show moved to Liverpool Freda came with me in my red jalopy.

I always carried two sets of plugs and changed them every thirty miles or so; otherwise, it was a reliable car, even when loaded up. When we drove to London, for a week at the Wood Green Empire, I changed the plugs eight times and I kept thinking that Freda would have found the rail journey much less tedious. . . .

One day in London, Hastings Mann, the producer of *Let's Make Hay*, asked if I would like to appear in a Sunday charity show, and I jumped at the offer.

"That's fine," he said. "It's at the Victoria Palace."

I couldn't believe it. This was Everest. I was so staggered that Mann added: "It's all right. Nothing to worry about. It's only one performance."

I didn't worry any more, not until I reached the Palace stagedoor and saw the enormous names on the bill: Laurel and Hardy, Will Fyffe, Vera Lynn, Nat Jackley, Clarkson Rose, George Doonan and Harry Tate junior.

My spot was not the worst. I was second after the interval, but in such company I couldn't have grumbled if I'd been on *during* the interval. I felt as if I had no business being there at all. All through the first half of the show, I keyed myself up. Then, during the interval, Vera Lynn came up to me and said: "I have a train to catch. Would you mind changing with me and going on third instead of second?"

I was rather overwhelmed by the whole thing, anyway, and eager to please. I said I didn't mind at all, though in fact I felt annoyed because I had steeled myself to get the job over. On the other hand, the third spot was a much stronger one to have. Vera sang, and I followed. Towards the end of my act I caught sight of Vera in the wings laughing and applauding and plainly in no hurry to catch a train.

I was still worrying about her train when I came off. She gave me a congratulatory kiss. Afterwards others in the show explained that she had had no train to catch and had merely organized the switch to give me a better chance. Not all stars in show business are as ruthless and selfish as they are made out to be.

That night I did better than ever I had done before. I had never known anything like it. Agents, some of whom had shooed me off not long before, were all over the dressing-room.

In the fug of cigar and cigarette smoke I was vaguely aware of the arrival of Bert Montague and he was saying: "Hands off, boys—he's mine." They disappeared like a bunch of chastized schoolboys. Bert patted me on the shoulders, and I started laughing. It was more of an emotional release, because the situation really wasn't very funny.

By now *Let's Make Hay* was approaching its end and I was becoming concerned about the effect this would have on Freda and myself. I thought a lot about it one Sunday evening as I drove back to London after spending the day with Freda and her parents at Croydon. Would it mean, after our final appearance at the Metropolitan, Edgware Road, that we would go off in different directions writing letters from ill-lit theatrical digs?

I had known Freda for two months—long enough, I thought, to propose. When I did so, Freda suggested that it might be better to wait a while. I went off to Skegness to fulfil a holiday camp date and we wrote to each other every day.

Presently Freda agreed that we should go ahead, and we were married on October 8, 1947, at Shirley, near Croydon.

On the eve of the wedding Freda's father, a gentle man with a bubbling sense of humour, asked me about my prospects. "I hope you'll be able to afford my daughter," he said laughing.

"I've got several weeks' engagements lined up," I said. Several was true, but only just; I had three dates at £30 a week between me and chronic unemployment. Despite the minor "hit" I'd made at the Victoria Palace, Bert Montague frankly admitted that he was finding it hard to raise any work for me.

After the three engagements, Freda and I took a room with use of kitchen at Willesden for £3 10s. a week, and I divided my time between rehearsing my act, practising on the clarinet and footslogging it round the agents' offices. They knew me now, but they also knew I was signed to Bert Montague and they kept at arm's length.

It was always the same story. As the weeks went by, my Post Office savings account went down in direct ratio—along with my spirits. Freda remained optimistic. "Something will come," she would say.

Presently something did; right out of the blue. An agent on whom I'd called explained that a show called *Piccadilly Nights* was being organized to tour Belgium. The job of principal comedian was going and I could have it at £50 a week. Incredulously, I agreed; then I ran all the way to Bert Montague's office with the news, and from there I went out and caught a bus to Willesden. I gagged with the conductor, and his expression suggested that he suspected my brain.

During rehearsals I asked the producer to give Freda an audition. She came through successfully and joined the company. We gave up our rooms at Willesden and flew to Brussels in fine style. This looked like the turning point.

We strolled around the capital, enjoying the sights, dropping in at the pavement cafés, feeling more and more sure that this was the start of a life free of anxiety about where the next pound was coming from.

The show opened at the Alhambra, and from the start it was clear that all wasn't well. Business was poor and it remained so in the days that followed. To make things worse, exchange difficulties limited the amount of money we could draw, and presently the point was reached when we were not even getting the money we were allowed.

After a fortnight the show folded.

We were flat broke, not only Freda and myself, but the entire company. We had a whip-round and found that there was just enough for one taxi. This we used to carry our baggage. We walked to the station. After breakfast at the hotel that morning, one member of the party had stuffed his pockets with bread rolls. It was a good thing he did, for this was our only food between Brussels and Dover.

When we disembarked we explained our plight to railway officials who couldn't have been more helpful had we been distressed survivors from a shipwreck. By telephone they arranged for some friends of members of the company to meet us at Victoria. Meanwhile, we dined on the train on tick. From that day to this, I've been convinced that there's little wrong with our railways.

In the first flush of the Brussels job Freda and I had talked about buying our own house. Now, back in London, we called on our Willesden landlady and reclaimed our room. Eventually we received the money owing to us from *Piccadilly Nights*; but our resources disappeared fast.

Freda was economical with food, yet we always seemed to eat fairly well. There were no nights out, no shows, no new clothes, and one morning before I set out round the agents we scraped up our entire wealth. The bank book was empty, we had sold the red jalopy and we had exactly £3 10s. left. It was getting well into December and I remember wondering what we would do for Christmas. At this rate we would not even have the fare to reach Deal, where we could spend a couple of days with my mother.

Then came a real saver. Bert Montague was approached by a B.B.C. Television producer called Eric Fawcett, who had seen me at the Metropolitan, Edgware Road, and now wanted me for an afternoon programme.

I was paid fifteen guineas, enough to see us through Christmas. I had also broken into television and that was to mean a lot. But as we packed our bags for the journey to Deal, the future beyond Christmas looked grim, and I was toying with the idea of trying to find a steadier occupation. Neither of us had an inkling of the opportunities that lay beyond the corner of the New Year.

NEXT WEEK: Our whirlwind life on tour with a caravan

OPEN TO VIEW

by JAMES LEES-MILNE

Drawn by ROWLAND HILDER

Arsenic in the oatmeal killed the heir of the Aubreys—and brought down a great house

SIR JOHN AUBREY came of a very ancient family of which he was inordinately proud. He was, however, prouder still of his wife, his only child—a young son—and his old moated manor house, called Boarstall.

In 1777, when the boy was five years old, he was attacked by some mild ailment. His nurse decided to give him a dose of oatmeal gruel, which he refused to take, saying the taste was nasty. She then sweetened it and the child swallowed it. Within a few hours he was dead.

The nurse had by mistake mixed with the gruel some arsenic, which had been prepared to poison rats.

Sir John's wife never recovered from the shock, which within a year killed her at the age of thirty-two. Sir John, in despair and anger, turned against the beautiful house in which his son and wife had died. He pulled it down to the ground, with the exception of the turreted gatehouse.

This still stands, a romantic but forlorn building on the edge of the wide moat, protecting nothing but the memory of a vanished home.

Boarstall has a long history. Edward the Confessor frequently retired from court to the spot, which was then part of Bernwood Forest, to hunt. At that time the forest was infested by a wild boar of fearsome savagery. It had killed several huntsmen and people went about in dread of meeting it.

At last a huntsman named Nigel very courageously stalked it and slew it. As a reward the King, to whom Nigel on bended knee presented the animal's head, made him Keeper of Bernwood Forest and granted him certain lands to be held by *cornage*, that is to say, by right of a horn.

On the land the happy huntsman built himself a house which he called Boarstall, in which the horn as a pledge of his ownership was faithfully preserved by his descendants.

During the Civil War, Boarstall was subject to many vicissitudes. In 1646 it was held for some time by Sir William Campion, a Cavalier, who surrendered it to troops of General Fairfax after an eighteen-hour bombardment. Sir William was described as a little man who, whenever he had to write a letter, would "lie flat on the ground on his belly."

Boarstall passed by inheritance through the female line until 1943, when Sir Henry Aubrey-Fletcher was obliged to sell the estate. Sir Henry has a lease of the gatehouse, now owned by the National Trust. He still possesses the ancient horn by right of which his ancestor, Nigel, held the Boarstall lands.

How to get there: Boarstall Tower is two miles from Brill, Buckinghamshire. *Open:* Visits may be arranged on written application to the tenant.

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To make a *Bullet*, add simply TWO, THREE or FOUR words of apt and original comment to any of the *Examples* below. To use an incomplete *Example*, first complete it with any one word in place of dotted line—then make your *Bullet* as usual.

Britain's Cake	Drink
In The Eastern Sky	Just Being Difficult
Shipbuilder John	Alfie Expects
Men Of Goodwill	Half-heartedly
Christmas, The Magician	A Cat And Dog Life
With Chattering Teeth	Wouldn't Listen
Hung Up	Upset Buttercup
Steady, Liberace	In Auntie's Cottage
Money To Spend	Crazy People
Darkness And Desolation	If Work Were Abolished

Incomplete "Examples"—see instructions

To Save.....	Didn't Know The.....
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.....'s Horoscope	In The.....Lottery

EXAMPLE ..... 6d.

BULLET .....

EX. ..... 6d.

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RULES 1. First Prize for best *Bullet* received. Others in order of merit; the test is of cleverness, aptness and originality.

2. Editor undertakes that all *Bullets* received shall be accorded careful consideration by competent adjudicators.

3. As entry-fee enclose P.O. as indicated on coupon. Fee submitted will be taken to cover *Bullets* in coupon order—any sent in excess will be disqualified. Plain-paper entries are allowed. Make P.O. payable to JOHN BULL, cross /& Co./, write name and address on back. Coupons must not be mutilated.

4. Entries accepted by post only and on condition that result of this Contest (in JOHN BULL dated December 29), also Editor's decision in any matter of dispute, are accepted as final and legally binding. Odhams' employees (and families) ineligible.

(See "Daily Herald" on Saturday, December 8, for early news of No. 2,066 result.)

POST ENTRY

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